

AD-A132 875

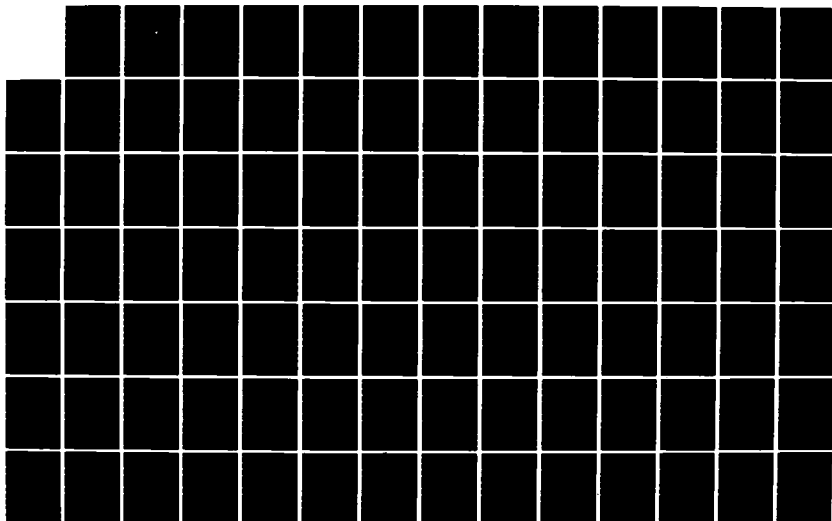
RETENTION SEVERITY IN THE NAVY: A COMPOSITE INDEX(U)
NAVAL POSTGRADUATE SCHOOL MONTEREY CA M A DRIGGERS
JUN 83

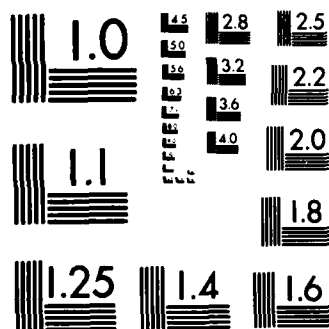
1/2

UNCLASSIFIED

F/G 5/9

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AD-A132 875

2

NAVAL POSTGRADUATE SCHOOL

Monterey, California



DTIC
ELECTE
SEP 26 1983
S B

THESIS

RETENTION SEVERITY IN THE NAVY:
A COMPOSITE INDEX

by

Michael A. Driggers, I

June 1983

Thesis Advisor:

George Thomas

Approved for public release; distribution unlimited.

DTIC FILE COPY

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

DD FORM 1473
1 JAN 73

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

#20 - ABSTRACT (CONTINUED)

relative retention severity for each of 99 occupations (ratings) for each of the Selective Reenlistment zones (A, B, C). The intent of the RSI is to assist in the assignment of SRB bonus multiples.

| | |
|--------------------|--|
| Accession For | |
| NTIS GRA&I | <input checked="checked" type="checkbox"/> |
| DTIC TAB | <input type="checkbox"/> |
| Unannounced | <input type="checkbox"/> |
| Justified | |
| By _____ | |
| Distribution/ | |
| Availability Codes | |
| Dist | Avail and/or Special |
| A | |



S-N 0102-LF-014-6601

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Approved for public release; distribution unlimited.

Retention Severity in the Navy:
A Composite Index

by

Michael A. Driggers, I
Lieutenant, United States Navy
B.A., University of North Carolina at Charlotte, 1975

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL

June 1983

Author:

Michael A. Driggers, I

Approved by:

George W Thomas

Thesis Advisor

Joseph E. San Miguel

Second Reader

Richard L. Elster

Chairman, Department of Administrative Sciences

Kenneth T. Marshall

Dean of Information and Policy Sciences

ABSTRACT

The purpose of this thesis was to develop a Retention Severity Index (RSI) for 99 Navy enlisted ratings. The RSI model was developed from an analysis of factors relating to the Navy's demand for experienced personnel in each rating. The multiattribute RSI model is a composite index of five personnel components: (1) shortage, (2) growth, (3) size, (4) cost, and (5) priority. The RSI model generated an expression of the relative retention severity for each of 99 occupations (ratings) for each of the Selective Reenlistment zones (A,B,C). The intent of the RSI is to assist in the assignment of SRB bonus multiples.

TABLE OF CONTENTS

| | | |
|------|---|----|
| I. | INTRODUCTION AND LITERATURE REVIEW ----- | 10 |
| | A. INTRODUCTION ----- | 10 |
| | B. LITERATURE REVIEW ----- | 17 |
| | C. SUMMARY ----- | 24 |
| II. | MANPOWER REQUIREMENTS ----- | 26 |
| | A. DATA BASE ----- | 26 |
| | B. DETERMINING MANPOWER REQUIREMENTS RELATIVE TO SRB ZONES ----- | 28 |
| | C. FUTURE MANPOWER REQUIREMENTS ----- | 33 |
| | D. SUMMARY OF MANPOWER REQUIREMENTS USED IN THE RSI ----- | 34 |
| III. | MANPOWER COSTS ----- | 36 |
| | A. INTRODUCTION ----- | 36 |
| | B. THE ENLISTED BILLET COST MODEL ----- | 37 |
| | C. ECM ELEMENTS USED IN THE RSI ----- | 39 |
| | D. COST DATA MODIFICATION ----- | 42 |
| | E. SUMMARY OF RSI COST DATA DEVELOPMENT ----- | 44 |
| IV. | PRIORITY OF NAVY RATINGS ----- | 49 |
| | A. THE CONCEPT OF PRIORITY ----- | 49 |
| | B. THE DELPHI METHOD AS APPLIED TO PRIORITIZING NAVY RATINGS ----- | 49 |
| | C. SUMMARY ----- | 53 |
| V. | DERIVATION OF THE RETENTION SEVERITY INDEX ----- | 56 |
| | A. RSI COMPONENTS ----- | 56 |
| | B. A COMPOSITE INDEX ----- | 58 |

| | | |
|-------------|---|-----|
| C. | MULTIVARIATE ANALYSIS OF THE RSI COMPONENT INDICES ----- | 61 |
| D. | APPLICATION OF THE FY-82 RSI RESULTS ----- | 62 |
| E. | SUMMARY ----- | 69 |
| VI. | SUMMARY AND RECOMMENDATIONS ----- | 71 |
| A. | SUMMARY ----- | 71 |
| B. | RECOMMENDATIONS FOR FURTHER STUDY ----- | 73 |
| APPENDIX A: | GLOSSARY OF MANPOWER TERMS ----- | 75 |
| APPENDIX B: | ENLISTED RATINGS ----- | 77 |
| APPENDIX C: | MANPOWER REQUIREMENTS ----- | 83 |
| APPENDIX D: | MANPOWER COSTS ----- | 113 |
| APPENDIX E: | RETENTION SEVERITY COMPONENT DATA ----- | 129 |
| APPENDIX F: | SRB BONUS MULTIPLES ----- | 165 |
| | LIST OF REFERENCES ----- | 173 |
| | INITIAL DISTRIBUTION LIST ----- | 175 |

LIST OF TABLES

| | | |
|-----|---|----|
| 1.1 | SRB Zones by Length of Service ----- | 12 |
| 1.2 | An Example of SRB Payment Computations ----- | 13 |
| 2.1 | Reenlistment Zones Used in the RSI ----- | 28 |
| 2.2 | Summary Statistics for Current Manpower Inventories ----- | 31 |
| 2.3 | Dominant Paygrades for SRB Zones ----- | 32 |
| 3.1 | Enlisted BCM Cost Elements ----- | 38 |
| 3.2 | Definitions of BCM Cost Elements ----- | 40 |
| 3.3 | Example of RSI Cost Computations ----- | 43 |
| 3.4 | FY-82 Weighted Costs By Rating and Reenlistment Zones ----- | 45 |
| 4.1 | Priority Values for Navy Ratings ----- | 54 |
| 5.1 | Retention Severity Index Components ----- | 56 |
| 5.2 | Pearson Correlation for Retention Severity Components ----- | 59 |
| 5.3 | Weighting Factors of RSI Component Indices ----- | 62 |
| 5.4 | FY-82 Retention Severity Index Values by Reenlistment Zones ----- | 63 |
| 5.5 | Correlation of SRB Bonus Multiples With RSI Values ----- | 68 |
| 5.6 | Correlation of SRB Bonus Multiples With RSI Components ----- | 69 |
| B-1 | Enlisted Ratings Used in the Retention Severity Index ----- | 77 |
| B-2 | Apprenticeship Enlisted Ratings ----- | 81 |
| B-3 | Senior Enlisted Ratings ----- | 82 |
| C-1 | FY-82 Current Manpower Inventories For Reenlistment Zone A ----- | 83 |
| C-2 | FY-82 Current Manpower Inventories For Reenlistment Zone B ----- | 87 |
| C-3 | FY-82 Current Manpower Inventories For Reenlistment Zone C ----- | 91 |
| C-4 | FY-82 Distribution of Current Manpower Inventories in Zone A ----- | 95 |
| C-5 | FY-82 Distribution of Current Manpower Inventories in Zone B ----- | 99 |

| | | |
|-----|--|-----|
| C-6 | FY-82 Distribution of Current Manpower Inventories in Zone C ----- | 103 |
| C-7 | FY-82 Shortages of Current Manpower Inventories From Billets Authorized by SRB Zone ----- | 107 |
| C-8 | Objective Force Model (OFM) Projected Growth of Billets Authorized from FY-82 to FY-86 ----- | 111 |
| D-1 | FY-82 Enlisted Billet Cost Estimates Excluding SRB Payments ----- | 113 |
| D-2 | FY-82 Zone A Distribution of Enlisted Billet Costs Excluding SRB Payments ----- | 117 |
| D-3 | FY-82 Zone B Distribution of Enlisted Billet Costs Excluding SRB Payments ----- | 121 |
| D-4 | FY-82 Zone C Distribution of Enlisted Billet Costs Excluding SRB Payments ----- | 125 |
| E-1 | FY-82 Retention Severity Index Components For Reenlistment Zone A ----- | 129 |
| E-2 | FY-82 Retention Severity Index Components For Reenlistment Zone B ----- | 133 |
| E-3 | FY-82 Retention Severity Index Components For Reenlistment Zone C ----- | 137 |
| E-4 | Rankings For FY-82 Zone A RSI Components ----- | 141 |
| E-5 | Rankings For FY-82 Zone B RSI Components ----- | 145 |
| E-6 | Rankings For FY-82 Zone C RSI Components ----- | 149 |
| E-7 | Zone A Retention Severity Index Standardized Components ----- | 153 |
| E-8 | Zone B Retention Severity Index Standardized Components ----- | 157 |
| E-9 | Zone C Retention Severity Index Standardized Components ----- | 161 |
| F-1 | FY-82 Bonus Multiple Assignments with Rankings by SRB Zones ----- | 165 |
| F-2 | FY-83 Bonus Multiple Assignments with Rankings by SRB Zones ----- | 169 |

LIST OF FIGURES

| | | |
|-----|--|----|
| 1.1 | An Example of Human Capital Theory ----- | 23 |
| 4.1 | Chi-Square Range of Agreement ----- | 52 |

I. INTRODUCTION AND LITERATURE REVIEW

A. INTRODUCTION

Since the inception of the All Volunteer Force in 1973, the Navy, as well as the other services, has had to actively compete in the civilian labor market to meet its essential manpower requirements. This competition is not only for the recruitment of new accessions, but for the retention of experienced personnel in the Navy's Career Force. The Navy has historically relied on cash incentives to aid these recruitment and retention efforts since shortly after the Revolutionary War. The Navy has had a reenlistment cash bonus program in effect since 1791 under various names such as: Bounty for Reenlistment; Honorable Discharge Gratuity; Enlistment Allowance; Reenlistment Allowance; Reenlistment Bonus; Regular Reenlistment Bonus; Variable Reenlistment Bonus; and Selective Reenlistment Bonus. Throughout the evolution of the original reenlistment cash bonus from the (Bounty for Reenlistment) of \$6 for all sailors reenlisting to the present Selective Reenlistment Bonus (maximum payment of \$20,000) the primary purpose of a cash reenlistment incentive has remained the same. That purpose is to maintain an adequate level of experienced and qualified enlisted personnel in the peacetime Navy.

Authority for the Selective Reenlistment Bonus (SRB) Program was established by the Armed Forces Enlisted Personnel

Bonus Revision Act of 1974. The purpose of the Act of 1974 was:

to provide a monetary incentive to encourage personnel in critical military skill specialties with high training costs to reenlist.

The Act of 1974 provided for a maximum cash bonus of \$15,000 payable to a member with at least 21 months and up to 10 years of continuous active service in a critical skill (rating) who contracted for an additional enlistment of at least three years.

Since 1974, authority for the SRB Program has been extended three times by Congress. With each of the three extensions, the policies governing SRB payments have been modified. The most recent extension, the Department of Defense Appropriation Authorization Act of 1981, emphasized the retention and manning problems in the Navy by expanding SRB eligibility criteria. As amended by the Act of 1981, a member's SRB eligibility is determined by the total length of service (LOS), the length of additional obligated service, and whether or not the member possesses a skill designated as "critical".

The amount of a cash bonus authorized by SRB policy is largely dependent on the member's LOS. The LOS eligibility criteria has been divided into three "zones" as shown in Table 1.1. SRB zones should not be interpreted as the first, second, and third reenlistment points. Instead, the SRB zones are used to assign a measure of importance to a member's years of continuous active service (experience). Additionally,

TABLE 1.1

SRB Zones by Length of Service

| <u>SRB Zone</u> | <u>Length of Service Boundaries</u> |
|-----------------|---|
| A | 21 months--6 years |
| B | 6 years--10 years |
| C | 10 years--14 years |

each Navy rating (occupational skill) is assigned a level of bonus award called the SRB bonus multiple. The bonus multiple ranges from 0 to 6 and is assigned to all ratings for each SRB zone (A,B,C). Computation of SRB payment requires determining the member's appropriate SRB zone from Table 1.1, and the bonus multiple for the member's particular rating specific to that SRB zone. Next, multiply the member's monthly base pay by the bonus multiple, then multiply that product by the number of years for which the member is reenlisting. This procedure is shown in Equation 1.1, where BP is the monthly base pay, BM is the SRB bonus multiple, and Y represents the number of years in the reenlistment contract.

$$BP \times BM \times Y = \text{SRB payment} \quad (1.1)$$

However, current SRB policy restricts total payments to a maximum of \$20,000. An example of this computation using Equation 1.1 is shown in Table 1.2.

TABLE 1.2

An Example of SRB Payment Computations

Consider an Aviation Ordnanceman Second Class Petty Office (AO2) wishing to reenlist for 4 years:

He is eligible under zone B (from Table 1.1). The bonus multiple for the AO rating in FY-82 is 2 (from Appendix F, Table F-1). The monthly base pay for an E5 petty officer with LOS 12 is \$1004.20 (from DoD Pay Table).

--Applying Equation 1.1:

$$(\$1083.00) \times (2) \times (4 \text{ years}) = \$8,664.00$$

The AO2 will receive a total Selective Reenlistment Bonus payment of \$8,664.00.

Throughout its numerous modifications, the SRB Program has continuously made reference to the "criticality" of Navy ratings. SRB policy still requires that a member be in a "critical" rating in order to be eligible for a reenlistment bonus. The procedure for determining a rating's degree of criticality has not been officially defined by SRB policy. Consequently, during the past decade, many attempts have been made by Navy managers and manpower analysts to define rating criticality for Navy ratings. These efforts have not resulted in an objective definition of the "critical rating". Instead this term has become a cliché given to individual interpretation. For that reason, this thesis endeavors to avoid undue reference to the criticality of Navy ratings.

Still, SRB policy dictates the identification of ratings that need reenlistment bonuses to maintain sufficient manning

levels. By identifying those ratings requiring a reenlistment bonus, the degree of retention severity for each rating relative to all Navy ratings is approximated. This task is implicitly accomplished through a series of negotiations primarily involving (1) the SRB Manager in OP-136, and (2) the Enlisted Community Managers (ECMs) in OP-132. A detailed accounting of this negotiation process was published by Butler, et al. (1980).

Even though portions of this negotiation process involve various computer models that forecast the total strength requirements, aggregate manpower goals, and feasible retention goals for the Navy, the final allocation of SRB bonus multiples to each rating is largely dependent on the individual personalities of the SRB Manager and the ECMs. This interaction between the SRB Manager and the ECMs is analagous to the interaction between Congress and Lobbyists. Congress enacts legislation for the "good of the country", but Lobbyists will try to persuade Congress to enact legislation favorable primarily for the good of the Lobbyists' clients. A novice or unpersuasive Lobbyist would not be as successful in dealing with Congress as an experienced Lobbyist who is very adept at these types of negotiations. Likewise, an ECM, is responsible for the "health and welfare" of a particular set of ratings. The more experienced the ECM is at negotiating SRB bonus multiples, the greater the probability that his ratings will receive a bonus. If the SRB Manager is experienced and persuasive, the SRB funds will be allocated

more in keeping with his point of view. Because the Navy rotates officer assignments frequently, there is always a variable experience mixture in OP-132 and OP-136.

Given the high turnover rate of key negotiators for the SRB Program, a computer model for assisting these negotiators is warranted. The purpose of this thesis is to develop a model to assess the retention severity of each rating. This will be accomplished through the derivation of a Retention Severity Index (RSI) Model which will index (rank) 99 Navy ratings. The Retention Severity Index will be a composite statement of the relative retention severity for the ratings listed in Appendix B, Table B-1.

To the extent that retention in the Navy is a function of both the Navy's demand for experienced personnel and the supply of reenlistees, the Retention Severity Index is derived mainly from factors relating to the Navy's demand for experienced personnel. The supply of reenlistees is affected by numerous manpower policies such as sea/shore rotation, quality of military life, and compensation. These supply factors impact the assignment of SRB multiples for each SRB zone. An analysis of both the supply and demand factors determining SRB multiples for Navy ratings would be beyond the scope of this thesis. Factors affecting the Navy's demand for reenlistees was selected as the RSI's emphasis given the lesser degree of analysis in that area in recent years.

The first phase for developing a Retention Severity Index is to identify factors affecting the importance of the loss of an experienced person in Navy ratings. Factors deemed important for a Retention Severity Index are:

1. Manpower requirements:

What are the present and future manpower requirements for each rating?

What is the current excess or shortage of manpower in each rating?

2. Manpower costs:

What is the replacement cost of a sailor for each rating?

3. Priority assessment of Navy ratings:

What is the importance of each rating to the Navy?

Although this list of questions is not exhaustive, it serves as the basis for analyzing the components of the RSI.

The Retention Severity Index for Navy ratings is not intended to replace the intuitive interaction between the SRB Manager and the Enlisted Community Managers. It is, however, a consistent and flexible method of deriving a baseline framework designed to assist in this interactive process.

The following section will summarize the most recent research accomplished in the subject area, as well as the research conducted in the area of developing a "Critical Rating Index" for Navy ratings. Chapters II through IV will detail the selection process of the RSI components

developed from analysis of each subject area. Chapter V will describe the derivation of the Retention Severity Index and apply it to the FY-82 SRB bonus multiples. Also, a Glossary of Manpower Terminology is compiled in Appendix A for reference.

B. LITERATURE REVIEW

The purpose of this section is to review the current research that has been accomplished in the areas of (1) manpower requirements, (2) manpower costs, and (3) assessing the priority of Navy ratings. Recent work on developing a "Critical Rating Index" will also be discussed.

During the past decade, the Navy has become increasingly aware of the need to maintain an experienced and highly skilled "Career Force". This has been prompted by the ever-increasing rate of technological growth in Naval weaponry coupled with rising manpower costs. This reality forces the Navy to compete directly with the private sector for the experienced petty officers in which a substantial training investment has been made. Unfortunately, the extent to which the Navy is able to compete with the private sector is limited by Congressional funding.

Currently, the Navy is the only Service to employ the Selective Reenlistment Bonus (SRB) Program and does so with notable success. Butler, et al. (1980) made a detailed study of the SRB Program and the existing computer models used by the SRB Manager in OP-136. This study identified the majority

of those models as being largely inappropriate, outdated, or too complex to be sensitive to the needs of OP-136. Butler's approach was to examine the existing framework of the SRB Program, then develop a model to provide the manpower data necessary for assigning an appropriate bonus multiple for those ratings that were subjectively classified as "critical".

The SRB award for reenlistment is determined in the following manner:

1. The individual's SRB Zone at the time of reenlistment is assigned a bonus multiple from 0 to 6.
2. SRB Zones are determined by Length of Service (LOS). The three zones have been established as: Zone A (21 months--6 years LOS), Zone B (6 years--10 years LOS), Zone C (10 years--14 years LOS).
3. The individual's monthly base pay is multiplied by the SRB bonus multiple to determine the annual bonus payment.
4. This annual amount is paid to the individual on the day of reenlistment and on the anniversary of the reenlistment day until the term of the reenlistment contract expires.

The overall effectiveness of the SRB Program was addressed in a memorandum by OP-132C (1982) using data from FY-81 and FY-82. The marginal cost of reenlistment was compared to three cost measures for each rating at LOS cells six, ten, and fourteen. The costs used in the comparison are:

1. Training Costs: An estimated rating-specific cost of training derived from CNET average costs adjusted by historical continuation rates
2. Replacement Costs: An "agricultural cost" measure that is derived from the Navy Enlisted Billet Cost Model and historical continuation rates

An agricultural cost is an estimate of the training costs associated with replacing a servicemember in a particular rating and LOS cell. This cost estimate accounts for attrition by specifying the number of new accessions required to yield the desired petty officer in the future. (For example, in order to "grow" a Boiler Technician 2nd Class Petty Officer with 11 years' experience, the requirement for new BT recruits may be 4 in order to produce a BT 2nd Class 11 years later.) Agricultural costs, however, do not account for the value the Navy receives from an individual progressing through the LOS cells.

3. CNA Costs: A first term "replacement" cost estimated by the Center for Naval Analyses (CNA) and adjusted by historical continuation rates (CNA cost estimates will be discussed in more detail later in this section)

The results of the comparison of cost data are highly supportive of the SRB Program although no in-depth analyses other than the cost comparisons were conducted.

Balis and Driscoll (1983) attempted to discern the optimum SRB award levels by using the Navy Comprehensive

Compensation and Supply Study (NACCS) Model developed by CNA. This model predicts the minimum cost mix between recruitment and reenlistment. Their results indicate the need for increased retention, but, unfortunately, their estimates of optimum SRB award levels are applicable only to recruits with four year obligations (4YO) and six year obligations (6YO). A significant drawback to their findings is the seemingly unrealistic difference between the estimated optimum bonus levels and the SRB policy constraints of a maximum bonus award level of 6. Their estimates would put the maximum bonus level as high as 20 for 4YOs and 19 for 6YOs. However, the implication of the study is to expand the SRB Program as much as Congressional policy would permit in order to achieve the minimum cost balance between first term enlistees and careerists.

A large amount of research has been conducted in the area of "Replacement Costs" during the past decade. Although multiple approaches have been taken in defining and re-defining the concept of replacement costs for Navy ratings, all have dealt with the underlying question of, "If a sailor does not reenlist, what is the Navy's cost of filling that vacancy?" Balis and Clay-Mendez (1982) estimated replacement costs for first term non-prior service males (CNA Costs) after having grouped them into 27 rating groups encompassing 65 ratings. The 65 ratings were selected largely because they all required entry through "A" School. These costs are inclusive of recruiting, recruit training, and "A" school

training costs and are categorized by quality measures then adjusted for attrition. For the servicemen in LOS 5, the replacement costs were estimated for all SRB bonus levels (0-6). These CNA costs were desirable for further consideration to be included in the Retention Severity Index, but data was not available for any LOS cells greater than 5.

Eskew, et al. (1978) analyzed the Bureau of Personnel's Billet Cost Model (BCM) (which has since been replaced by a more complete model developed by Frankel (1983)) and evaluated existing alternative sources of Naval manpower costs. Despite problems with estimating individual cost elements, the 1978 BCM was the model preferred by Eskew and associates. The existing alternative models, as listed below, were inadequate in estimating costs when manpower requirements could not be defined by rating and paygrade.

1. Navy Resource Model (NARM): Estimates the costs of alternative Naval force structures, but is unable to distinguish between types or levels of manpower.
2. Navy Composite Standard Rates (CSR): Provides for an average personnel cost by paygrade, but completely omits training costs.
3. OASD (Comptroller) Military Manpower Cost Reports: Issued biannually by the Office of the Assistant Secretary of Defense, omits direct training costs (i.e., military instructor costs) and some PCS costs, but includes a tax adjustment cost plus higher retirement cost estimates than the BCM.

Butler (1981) and (1982) presented a strong case argument in favor of using the Theory of Human Capital for estimating manpower costs. His cost estimations used the BCM as previously discussed and the calculations are easily adapted to use the new BCM of Frankel (1983).

The Human Capital Theory is used to estimate the value of marginal productivity (VMP) of an individual over a 20 year Navy career. The Navy "invests" in human capital through training costs and wages paid to sailors. The net return from this "investment" for the Navy is the difference between the imputed VMP and the Navy's "investment".

As shown in Figure 1.1, the application of Human Capital Theory implies a negative rate of return exists during the initial training period (time t_0 to t_1). The investor (in this case, the Navy) will not exceed the "break even" until the individual's VMP rises above the investor's outlays enough to offset the initial period of negative return. In Figure 1.1, the Navy would have to retain the individual until time t_2 in order to regain its investment. The longer past t_2 the individual stays in the Navy, the greater the return for the Navy since, heuristically, the individual's VMP will continue to increase through job experience. This logic would apply to all training periods during an individual's Navy career with the bottom line for the Navy being, "Invest in training only when reasonably assured of a positive return..."

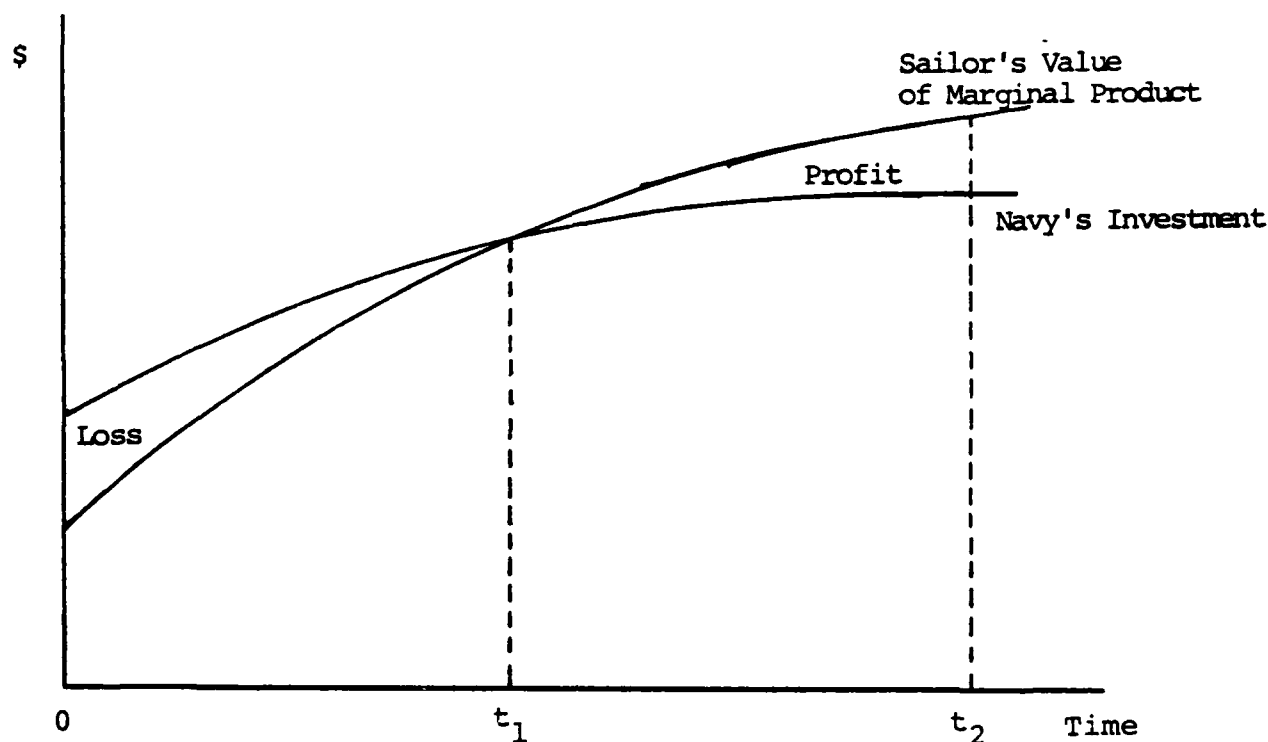


Figure 1.1 An Example of Human Capital Theory

Brazie (1982) attempted to develop a Critical Rating Index which would index Navy ratings based on their "Mission Criticality" and "Replacement Costs", which were defined as:

1. Mission Criticality: The classification of ratings by primary mission categories, type of command, and operational platform unit using OPNAVINST C3501.2F as a guideline.
2. Replacement Costs: An average cost estimation of replacing an individual in a particular rating at a specified LOS.

Brazie's analysis yielded five separate rankings of rating criticality; each one different from the others, and none covering all Navy ratings. His recommendations largely focused on a restructuring of many Navy manpower management policies. Although complex and seemingly sound in theory, Brazie's regression analysis yields highly unreliable statistical data based on the t-statistics and F-statistics from his regression equations.

A summary of models that either predict, measure, rank, or index Navy ratings by some measure of "criticality" was drafted by Hearold (1983). Her findings showed:

1. the need for a common definition of rating criticality and priority,
2. the need for a consolidation of some of the existing models, but not necessarily all,
3. the need of a rating index to be reproducible, acceptable to all users, and validated based on the purpose of the index,
4. the need of an index of ratings to augment the flexibility of human judgment and intuition, not replace it.

C. SUMMARY

For the purpose of this thesis, the development of a Retention Severity Index will adhere to the logic presented by Hearold (1983). Also, the RSI will be designed to specifically fit the decision-making environment of the SRB

Program. The following chapters detail the development of each component of the RSI. In addition to the Glossary in Appendix A, the majority of rating-specific data is tabled in the Appendices for quick reference.

II. MANPOWER REQUIREMENTS

A. DATA BASE

The data base used in developing the manpower requirements data was the Navy Enlisted Master File for Fiscal Year 1982 (FY-82). The data base included all personnel on active duty during the period September 30, 1981 to September 30, 1982. Data sources were:

1. Defense Manpower Data Center. Monterey, California
2. Navy Military Personnel Statistics: FY-82 Annual Report. NAVPERS 15658(A), Washington, D.C.

A total of 118 ratings were identified from the data base. Of these ratings, 99 were selected to be included in the RSI and are listed in Appendix B, Table B-1. Of the 19 ratings deleted from the RSI, one was the Aviation Support Equipment Technician (Hydraulics and Structures) Rating (ASH). The ASH rating was deleted because it is no longer an authorized Navy rating listed in the Enlisted Programmed Authorizations.

Also excluded from the RSI were the 18 Apprenticeship Ratings as shown in Appendix B, Table B-2. These ratings include only the three junior paygrades (E1, E2, E3). Apprenticeship Ratings are used as a general classification for junior enlisted personnel. Until they have been trained in a technical skill and advanced to the paygrade of E4, they will remain in one of the Apprenticeship Ratings.

Specifically, the Apprenticeship Ratings were omitted from the RSI because:

1. the Apprenticeship Ratings could not, as a group, be identified with a unique rating specialty. For example, a Seaman (SN) may choose to enter or "strike" for the Boatswain's Mate (BM) rating or the Musician (MU) rating.
2. the Navy Enlisted Billet Cost Model, Frankel (1983), lists billet cost data for the six E3 paygrades of the Apprenticeship Ratings, but excludes E1 and E2 billet cost data.
3. apprenticeship billets, per se, are excluded in the billets authorized in the Enlisted Programmed Authorization.

Of the 99 selected ratings, 15 are categorized as Senior Ratings. These ratings, listed in Appendix B, Table B-3, are comprised of highly skilled senior petty officers. Senior Ratings identify the senior enlisted managers that originate from diversified backgrounds within the same technical rating group.

For example, a Fire Control Technician (FT) enters that senior rating at the E8 paygrade from one of the following technical ratings in the FT rating group:

| | |
|-----|---|
| FTB | Fire Control Technician (Ballistic Missile Fire Control) |
| FTG | Fire Control Technician (Gun Fire Control) |
| FTM | Fire Control Technician (Surface Missile Fire Control) |

Based on Length of Service requirements alone, very few

members of the 15 Senior Ratings qualify for a reenlistment bonus under the SRB Program. However, since some members of the Senior Ratings do qualify and these ratings are such an integral part of the Navy's skilled manpower framework, the Senior Ratings were included in the RSI.

B. DETERMINING MANPOWER REQUIREMENTS RELATIVE TO SRB ZONES

As described in Chapter I, the major thrust of the Retention Severity Index (RSI) is directed toward the Selective Reenlistment Bonus (SRB) Program. Specifically, the RSI is intended to rationalize the process by which SRB award levels are assigned to each of the 99 ratings. In order to tailor the RSI to fit the Length of Service (LOS) constraints for each SRB zone, the manpower inventory data base had to be separated into three LOS categories. The LOS boundaries for these categories are shown in Table 2.1.

TABLE 2.1
Reenlistment Zones Used in the RSI

| <u>SRB Zone</u> | <u>LOS Boundaries</u> |
|-----------------|-----------------------|
| A | 2 years - 6 years |
| B | 6 years - 10 years |
| C | 10 years - 14 years |

The current manpower inventories (as defined in Appendix C) for the 99 ratings in the RSI are listed in the Navy Enlisted Master File by paygrade (E4 through E9) and by LOS

(0 to 20+ years). Since this data were not available by months of service vice years of service, the LOS boundaries for Zone A current inventories were modified in Table 2.1 to (2 years - 6 years) vice (21 months - 6 years).

A series of simple data transformations, as described below, were necessary to identify each SRB zone's unique current inventory profile. Once the current inventory data were separated into each LOS category in Table 2.1, each of the 99 ratings could then be identified by paygrade as well as SRB zone. The data was further transformed to be used in deriving each rating's zone-specific billet costs. This cost derivation will be discussed in detail in Chapter III.

The first part of this transformation was to sum, for each of the 99 ratings, the current manpower inventories in each of the six paygrades (E4 through E9). This resulted in a total current inventory for each rating in the RSI. This total inventory, in turn, was divided into each paygrade's current inventory. This procedure expressed each paygrade's inventory as a percentage of the total inventory as shown in Equation 2.1:

$$y_{ijk} = \frac{x_{ijk}}{\sum_{i=E4}^{E9} x_{ijk}} \quad (2.1)$$

where:

- i = paygrade/E4,E5,E6,E7,E8,E9
- j = rating/AB,ABE,...,UT,YN
- k = zone/A,B,C

In Equation 2.1 (X_{ijk}) is the current manpower inventory for paygrade (i) of rating (j) in zone (k). When the (X_{ijk}) 's are divided by the total inventory $(\sum_{i=E4}^{E9} X_{ijk})$, the percentage expression (Y_{ijk}) is derived for each rating. Equation 2.1 is repeated for each SRB zone. The current inventories for the 99 ratings are listed in Appendix C, Tables C-1, C-2, and C-3 for SRB zones A, B, and C, respectively. The percentage current inventories are listed for zones A, B, and C in Appendix C, Tables C-4, C-5, and C-6, respectively.

The remaining two data transformations were directed at matching the current inventory data to the authorized billets for each of the 99 ratings. The Enlisted Programmed Authorizations (EPA) are given by rating and paygrade only. It was, therefore, necessary to develop a method of expressing billet authorizations to parallel the current manpower inventories for each SRB zone.

Initially, transformation of the billets authorized was attempted by multiplying them by the percentage current inventories (Y_{ijk}) from Equation 2.1. This resulted in an incomplete expression of billet authorizations because the percentage current inventories (Y_{ijk}) were derived from LOS-specific data for each of the six paygrades while the billets authorized are given by paygrade with no reference to Length of Service (LOS).

By adding the current inventories (Appendix C) for each LOS cell (0 through 20+ years) in each paygrade (E4 through

E9), the total current inventories were expressed for each rating by paygrade only. This succeeded in matching the current inventories with the billets authorized, but did not match the current inventories with SRB zones. By computing the summary statistics for this new file data for current inventories, the paygrade-specific current inventories were evaluated further. Shown in Table 2.2, it is readily apparent that each SRB zone's total current inventory is dominated by two paygrades. These paygrades, identified in Table 2.3, when added together for each SRB zone yield a single current inventory expression for each of the 99 ratings in each SRB zone. Likewise, the corresponding paygrade-specific billet authorizations were added together to parallel the dominant current inventory data.

TABLE 2.2

Summary Statistics for Current Manpower Inventories

| PAYGRADE | CURRENT INVENTORIES | | | % CURRENT INVENTORIES | | |
|----------|---------------------|--------|--------|-----------------------|--------|--------|
| | ZONE-A | ZONE-B | ZONE-C | ZONE-A | ZONE-B | ZONE-C |
| E4 | 762 | 59 | 6 | .496 | .079 | .012 |
| E5 | 542 | 294 | 52 | .364 | .441 | .126 |
| E6 | 24 | 241 | 240 | .028 | .360 | .558 |
| E7 | 0 | 5 | 82 | .000 | .008 | .189 |
| E8 | 0 | 0 | 2 | .000 | .000 | .043 |
| E9 | 0 | 0 | 0 | .000 | .000 | .000 |

Having computed the dominant paygrade totals, each zone's population was represented. The next manipulation of the

TABLE 2.3

Dominant Paygrades for SRB Zones

| <u>SRB Zone</u> | <u>Dominant Paygrades</u> | <u>Percent of Total Inventory</u> |
|---------------------|-------------------------------|---------------------------------------|
| A | E4 & E5 | 86% |
| B | E5 & E6 | 80% |
| C | E6 & E7 | 75% |

manpower data required identifying the shortage (excess) of a rating's current inventory compared to that rating's billet authorizations. For each SRB zone an equation was derived to compute the shortage in manning for each rating such that:

$$S_j^k = \frac{(\text{Dominant paygrades})_j^k - (\text{Dominant paygrades})_j^k}{(\text{billetts authorized})_j^k} \quad (2.2)$$

where:

j = rating/AB,ABE,...,UT,YN

k = zone/A,B,C

The equations as expressed for each zone are:

$$S_j^A = \frac{(\text{E4 \& E5})_j - (\text{E4 \& E5})_j}{(\text{authorizations})_j} \quad (2.2a)$$

$$S_j^B = \frac{(\text{E5 \& E6} \text{ authorizations})_j - (\text{E5 \& E6} \text{ inventory})_j}{(\text{E5 \& E6} \text{ authorizations})_j} \quad (2.2b)$$

$$S_j^C = \frac{(\text{E6 \& E7} \text{ authorizations})_j - (\text{E6 \& E7} \text{ inventory})_j}{(\text{E6 \& E7} \text{ authorizations})_j} \quad (2.2c)$$

The results of Equations 2.2a through 2.2c are shown in Appendix C, Table C-7. A positive value for (S_j^k) indicates a shortage of current inventory from billets authorized. Conversely, a negative value of (S_j^k) represents the percentage of excess in manning as compared to billets authorized.

C. FUTURE MANPOWER REQUIREMENTS

To gain an understanding of a rating's unique retention problems, the future manpower demands for that rating must be known. Logically, assignment of a high bonus multiple to ratings slated for either a reduction in manning or a gradual "phasing out" of the rating (i.e., the ASH rating) is not cost effective. A rating undergoing a significant increase in manning to accommodate a new weapons system design would be a likely candidate for higher bonus multiples.

To assess the future manpower demands for the 99 ratings, the Objective Force Model (OFM) was used. This computer model uses as its input, the billets authorized in a given fiscal year for all Navy ratings. Next, the OFM applies both historical and projected continuation rates to the input data for estimating future billet authorizations. The

OFM-derived future manpower demands are further adjusted by managerial and economic policies (i.e., expansion, reduction, or elimination of a rating).

The OFM data used in the RSI was developed from the FY-82 Enlisted Programmed Authorizations (billets authorized). The future billet authorizations were estimated for FY-86. In comparing billet authorizations for the two years, the percent growth (G_j) was computed for each rating. First, the present FY-82 authorizations (BAP_j) were subtracted from future FY-86 authorizations (BAF_j). The difference was then divided by present FY-82 authorizations (BAP_j) to yield the percentage growth in billets authorized (G_j) as shown in Equation 2.3:

$$G_j = \frac{BAF_j - BAP_j}{BAP_j} \quad (2.3)$$

where:

$$j = \text{rating/AB, ABE, ..., UT, YN}$$

The computed values for (G_j) from Equation 2.3 are listed in Appendix C, Table C-8.

D. SUMMARY OF MANPOWER REQUIREMENTS USED IN THE RSI

Having computed the manpower requirements components for the Retention Severity Index, each of the 99 ratings were ranked for each component. These rankings are listed in Appendix E, Tables E-4, E-5, and E-6 for zones A, B, and C respectively. The manpower requirements RSI components are:

(1) the size of each rating's current inventory (population size), (2) the shortage (excess) of current manning levels in each rating, and (3) the percent growth in estimated future billet authorizations. Each component was ranked from 1 for least severe for the impact of the loss of an experienced person in a rating to 99 for most severe. Therefore, Size is ranked from 1 for the rating with the largest inventory to 99 for the rating with the smallest inventory. Shortage ranges from 1 for the rating with the least percentage of manpower shortage to 99 for the rating with the largest percentage of manpower shortage. Growth is ranked from 1 for the rating with the smallest projected growth to 99 for the rating projected to grow the most.

III. MANPOWER COSTS

A. INTRODUCTION

The purpose of this chapter is to review the selection process for the manpower cost data used in developing the Retention Severity Index. The data source selected for manpower costs was the Enlisted Billet Cost Model (BCM) developed by Frankel (1983). In total, six manpower cost models were screened before the BCM was selected as the preferred model. The six cost models considered were:

(1) the Navy Resource Model (NARM), (2) the Navy Composite Standard Rates (CSR), (3) the OASD Military Manpower Cost Reports, (4) the CNA Cost Model, (5) the Human Capital Model, and (6) the Enlisted Billet Cost Model (BCM).

These models were reviewed in the Literature Review Section of Chapter I with the exception of the BCM which is to be discussed in this chapter. The primary justification for not selecting the Navy Resource Model was that it was unable to distinguish between types or levels of manpower. The Navy Composite Standard Rates were rejected because these manpower costs did not include training costs. The Military Manpower Cost Reports were not chosen due to their lack of accounting for direct training costs. The CNA Cost Model was not selected because it estimated manpower service costs. The Human Capital Model uses the Billet Cost Model as its major input, but this model was designed to use

input from the version of BCM that preceded Frankel's BCM. Owing to the Human Capital Model's complexity and the extent to which Frankel's BCM cost data differs from that of the previous version of the BCM, time did not permit adapting the Human Capital Model to accept the current form of BCM data.

To the extent the Billet Cost Model [Frankel, 1983] captures the correct relative cost measures, it is not necessary that these cost measures identify the real cost of a billet. Moreover, it is essential to note that the Retention Severity Index uses manpower cost data to derive a relative ranking of 99 ratings, which is not a true expression of replacement cost or billet cost. The Billet Cost Model was chosen because it was compatible with the RSI's structure; it provided the most thorough cost estimation of billet costs compared to other available cost models; and, the BCM is widely accepted by SRB policy makers.

B. THE ENLISTED BILLET COST MODEL

The Enlisted Billet Cost Model (BCM), Frankel (1983), was developed as a means of estimating real (economic) billet costs for Navy ratings. The BCM cost data is calculated separately for each rating. Each rating's costs are further separated into costs for the top six paygrades (E4 through E9). In each table in the BCM, the costs are broken down into 14 "cost elements" as shown in Table 3.1.

Three total costs are given for each paygrade of a rating. The first is an Unadjusted Direct Cost. Unadjusted Direct

TABLE 3.1

Enlisted BCM Cost Elements

| | |
|---------------------|----------------------------|
| Basic Pay | SRB Payments |
| Proficiency Pay | Hazard Pay |
| Sea Pay | Variable Housing Allowance |
| Allowances | Retirement |
| Separation | Accession |
| "A" School | "C" School |
| Undistributed Costs | Unproductive Time |

Costs are the estimated costs of a billet with no time lost from work (unproductive time). The second total cost is the Navy Billet Cost. Navy Billet Costs are a summation of the 14 cost elements. This total cost is the estimated cost to the Navy of having a specific billet filled the entire year. The third total cost is the Standard Manyear Cost.

In deriving the Standard Manyear Costs, the BCM first estimates the average civilian worker's number of hours worked per year. This is done through the assumption of a 40 hour work week and 52 weeks worked per year. That annual workload translates to 2,080 hours/year which is called the Standard Manyear. The Standard Manyear is subtracted from the estimated Navy Billet Manyear. From this difference in workload, a "productive Manhour Rate" is computed as the real cost of a work hour in a billet. The Standard Manyear is then multiplied by the Productive Manhour Rate to derive the Standard Manyear Cost of a billet. This is the total

cost that should be used in evaluating civilian contractor cost estimates since contractors generally use the Standard Manyear when estimating contract proposals or bids.

The 14 cost elements of the BCM were derived by Frankel (1983) as marginal costs such that the Navy Billet Cost represents the marginal cost of having a billet filled for a year. In economic terms, this is the estimated cost to the Navy of having one additional person of equal skill and experience. For example, if the Navy Billet Cost of a Boatswain's Mate Second Class (BM2) were \$24,613, the Navy's cost of having the next BM2 would be \$24,613. The 14 cost elements are briefly described in Table 3.2.

C. BCM ELEMENTS USED IN THE RSI

Since the Retention Severity Index is specifically tailored to fit the SRB Program, the Billet Cost Model's 14 elements were researched to identify those elements that best fit the RSI's intent. The only BCM cost element judged not to fit the intent of the RSI was the "SRB Payments" cost element. The primary reason for excluding SRB costs from the RSI cost data was to prevent an implicit "double counting" of these payments. Since the RSI is intended to aid in assigning SRB bonus multiples to the 99 ratings, including the SRB payments currently being received within each rating would pre-bias that assignment process.

The next selection process involved choosing the most appropriate total cost as computed by the BCM. The Unadjusted

TABLE 3.2

Definitions of BCM Cost Elements

Basic Pay: an enlisted servicemember's annual salary excluding any additional benefits. This cost element includes FICA payments as well.

SRB Payments: an estimate of current costs of the SRB Program as awarded to each rating.

Proficiency Pay: a per capita average of all proficiency pay allowed for each rating. Examples include payments to the nuclear community and to saturation divers.

Hazard Pay: the per capita average of all hazard pay allowed for each rating. Hazard pays include payments for hostile fire, flight deck duty, flight pay, etc.

Sea Pay: a per capita average of career sea duty payments for each rating in recognition of the arduous nature of duty aboard ship.

Variable Housing Allowance (VHA): the paygrade-specific per capita average of VHA payments made to each rating.

Allowances: payments such as Basic Allowance for Quarters (BAQ) and Basic Allowance for Subsistence (BAS). This cost element accounts for both the actual payments made and the costs of "in-kind" substitutes (i.e., BAQ is foregone when residing in government furnished quarters).

Retirement: the distribution to each rating and paygrade of the costs associated with retirement, disability retirement, and death.

Separation: a cost projection for enlisted personnel leaving the military during the fiscal year for which billet costs are being computed. Estimate of separation costs include moving expenses, separation pay, and unemployment benefits.

Accession: an amortization over the initial term of enlistment of all recruiting costs, initial clothing allowances, and recruit training costs. These costs are apportioned almost entirely to paygrades E5 and below.

"A" School: the value of "A" School (initial technical skill training) as amortized over the number of years remaining until retirement after completion of training.

TABLE 3.2 (CONT.)

"C" School: the amortized value of "C" School (advanced technical training).

Undistributed Costs: the value of costs not specifically identifiable by rating or paygrade. Examples of these costs include CHAMPUS, Commissary, Navy Exchange, and PCS costs.

Unproductive Time: the cost associated with "downtime" or the opportunity cost of lost productivity from a sailor's not working. Exclusive of on-the-job time lost during training, examples of unproductive time include individuals in a rating that spent time in transit between permanent duty stations, in a prisoner status, or as medical patients.

Direct Cost was rejected because it excluded the "Unproductive Time" cost element. It was decided that Unproductive Time was a BCM cost element essential to the cost of a billet evaluated by the RSI. The Standard Manyear Cost was the next total cost considered. It included all 14 cost elements, but the Standard Manyear Cost is based on the Standard Manyear (2080 hours per year spent working). Given the greater number of work hours required of Navy personnel, the Standard Manyear Cost was decidedly an understated total cost for the purpose of the Retention Severity Index. Consequently, the Navy Billet Cost was the total cost selected as the RSI's source of cost data.

D. COST DATA MODIFICATION

The Navy Billet Costs were initially adjusted to subtract the SRB Payments cost element. Further modification of the Navy Billet Costs was required to make the cost data compatible with the three SRB zones. Having subtracted the SRB Payments cost element, the Navy Billet Costs (hereafter referred to as "Billet Costs"), were still only identified by rating and paygrade. To fit the SRB zones' LOS constraints, the Billet Costs were modified by the percentage current inventories (Y_{ijk}) computed earlier by Equation 2.1. Since the Billet Costs were paygrade-specific, they were multiplied by the percentage current inventory (Y_{ijk}) for each paygrade in each rating. That process resulted in the Billet Costs for each paygrade in each rating's being expressed as a

Percentage Billet Cost (BC_{ijk}). Since BC is the Percentage Billet Cost for the i^{th} paygrade of the j^{th} rating in the k^{th} zone, a single cost (C_{jk}) was derived for rating (j) in the k^{th} zone by summing the product of BC and Y_{ijk} for each rating. This process is shown in Equation 3.1 as:

$$C_{jk} = \sum_{i=E4}^{E9} (BC_{ijk}) (Y_{ijk}) \quad (3.1)$$

Table 3.3 contains an example of Equation 3.1 computed for the Yeoman (YN) rating. The Billet Costs used in developing the RSI-specific billet cost estimates and Table 3.3 are listed in Appendix D, Table D-1. The zone-specific costs (C_{jk}) are listed in Appendix D, Tables D-2, D-3, and D-4 for zones A, B, and C respectively.

TABLE 3.3

Example of RSI Cost Computations

Using the Yeoman (YN) rating for illustration, the RSI Costs for zone A are computed using Equation 3.1 as follows:

- Refer to Appendix D, Table D-2 for the appropriate Billet Costs (BC_{ijk}).
- Refer to Appendix C, Table C-4 for the corresponding percentage current inventories (Y_{ijk}).

| <u>RATE</u> | <u>BILLET COST</u> | <u>CURRENT INVENTORY</u> | <u>PAYGRADE COST</u> | |
|-------------|------------------------|------------------------------|--------------------------|---------------------|
| YN3 | \$18807 | .6005 | \$11294 | |
| YN2 | \$22201 | .3806 | 8449 | |
| YN1 | \$26092 | .0184 | 490 | |
| YNC | \$31015 | .0005 | 15 | |
| YNCS | \$35526 | 0 | 0 | |
| YNCM | \$41139 | 0 | 0 | |
| | | 100% | \$20238 | (Total RSI Cost) |

E. SUMMARY OF RSI COST DATA DEVELOPMENT

This chapter developed the RSI cost data for each rating such that each SRB zone would have its unique cost data. With Equation 3.1, a single cost figure was derived for each of the 99 ratings in zones A, B, and C. These summed costs were ranked for the 99 ratings in Appendix E, Tables E-4, E-5, and E-6 for zones A, B, and C respectively. A rank of 1 was assigned to the rating in each zone with the smallest cost. A rank of 99 was assigned to the rating in each zone with the largest cost.

TABLE 3.4

FY-82 Weighted Costs By Rating and Reenlistment Zones*

| <u>RATING</u> | <u>Weighted Costs</u> | | |
|---------------|-----------------------|---------------|---------------|
| | <u>Zone A</u> | <u>Zone B</u> | <u>Zone C</u> |
| AB | 0 | 0 | 0 |
| ABE | 20900 | 25000 | 28500 |
| ABF | 20000 | 23300 | 27600 |
| ABH | 19800 | 22900 | 26200 |
| AC | 23400 | 26500 | 28800 |
| AD | 21000 | 24500 | 27700 |
| AE | 21800 | 25800 | 28400 |
| AF | 0 | 0 | 0 |
| AG | 20600 | 24300 | 27500 |
| AK | 19800 | 22400 | 25700 |
| AM | 35100 | 0 | 35100 |
| AME | 21800 | 25200 | 27600 |
| AMH | 20400 | 23800 | 27200 |
| AMS | 20600 | 24100 | 27100 |
| AO | 20800 | 24600 | 27400 |
| AQ | 26900 | 29400 | 31200 |
| AS | 27200 | 27300 | 27700 |
| ASE | 21900 | 23600 | 24200 |
| ASM | 23500 | 25600 | 26200 |
| AT | 24400 | 27400 | 29300 |
| AV | 0 | 0 | 0 |
| AW | 23200 | 27300 | 30000 |
| AX | 25900 | 28300 | 30400 |
| AZ | 19400 | 22000 | 25800 |
| BM | 19900 | 23700 | 27200 |
| BT | 21500 | 25100 | 28700 |
| BU | 20500 | 23900 | 27700 |
| CE | 22000 | 25300 | 27200 |
| CM | 21400 | 24000 | 27500 |
| CTA | 22500 | 25000 | 28100 |

* From Equation 3.1

TABLE 3.4 (CONT.)

| <u>RATING</u> | <u>Zone A</u> | <u>Zone B</u> | <u>Zone C</u> |
|---------------|---------------|---------------|---------------|
| CTI | 21900 | 25500 | 27700 |
| CTM | 32700 | 33400 | 33600 |
| CTO | 22700 | 25400 | 28200 |
| CTR | 24000 | 26200 | 28300 |
| CTT | 31300 | 32700 | 32800 |
| CU | 0 | 0 | 0 |
| DK | 20200 | 24500 | 27700 |
| DM | 19500 | 22900 | 25900 |
| DP | 20400 | 23800 | 27200 |
| DS | 26200 | 32700 | 35900 |
| DT | 19500 | 22100 | 25800 |
| EA | 20300 | 24300 | 28000 |
| EM | 23300 | 27500 | 31600 |
| EN | 20100 | 24500 | 27900 |
| EO | 20700 | 24300 | 26400 |
| EQ | 0 | 0 | 0 |
| ET | 25000 | 28400 | 31000 |
| EW | 28300 | 31200 | 33200 |
| FT | 0 | 0 | 80600 |
| FTB | 25400 | 28500 | 31800 |
| FTG | 26400 | 29800 | 32400 |
| FTM | 27600 | 30900 | 32900 |
| GM | 0 | 0 | 81400 |
| GMG | 21000 | 25500 | 29000 |
| GMM | 22900 | 27700 | 30900 |
| GMT | 22300 | 26700 | 28800 |
| GS | 0 | 0 | 73200 |
| GSE | 24700 | 29000 | 32300 |
| GSM | 24300 | 28300 | 31100 |
| HM | 19600 | 22600 | 26200 |
| HT | 20500 | 24900 | 28200 |
| IC | 22000 | 26400 | 30100 |
| IM | 22200 | 26200 | 28800 |

TABLE 3.4 (CONT.)

| <u>RATING</u> | <u>Zone A</u> | <u>Zone B</u> | <u>Zone B</u> |
|---------------|---------------|---------------|---------------|
| IS | 23300 | 26100 | 28500 |
| JO | 19700 | 23200 | 25800 |
| LI | 19300 | 22800 | 25800 |
| LN | 23300 | 24300 | 26500 |
| MA | 24500 | 25300 | 27900 |
| ML | 20600 | 24700 | 26900 |
| MM | 22000 | 25500 | 30900 |
| MN | 25600 | 28600 | 30200 |
| MR | 20500 | 25600 | 28200 |
| MS | 20600 | 23100 | 26300 |
| MT | 24200 | 27700 | 30700 |
| MU | 25300 | 26400 | 28400 |
| NC | 24200 | 27800 | 29300 |
| OM | 22300 | 26400 | 28800 |
| OS | 22700 | 26900 | 30500 |
| OT | 24300 | 27800 | 29700 |
| PC | 18500 | 22500 | 25600 |
| PH | 21600 | 23200 | 25400 |
| PI | 0 | 0 | 0 |
| PM | 20700 | 23300 | 27400 |
| PN | 20300 | 24200 | 27700 |
| PR | 21600 | 24200 | 26700 |
| QM | 20300 | 24900 | 28900 |
| RM | 22300 | 25500 | 28500 |
| RP | 20000 | 23000 | 25700 |
| SH | 20400 | 24200 | 26900 |
| SK | 20200 | 24200 | 27100 |
| SM | 20700 | 24400 | 27900 |
| ST | 0 | 0 | 0 |
| STG | 23200 | 27200 | 30300 |
| STS | 29200 | 32400 | 35200 |
| SW | 20400 | 24500 | 28500 |
| TD | 24300 | 27200 | 29200 |

TABLE 3.4 (CONT.)

| <u>RATING</u> | <u>Zone A</u> | <u>Zone B</u> | <u>Zone C</u> |
|---------------|---------------|---------------|---------------|
| TM | 23300 | 27200 | 29500 |
| UT | 20600 | 24100 | 26800 |
| YN | 20200 | 23700 | 27000 |

IV. PRIORITY OF NAVY RATINGS

A. THE CONCEPT OF PRIORITY

Before the assessment of retention severity for Navy ratings was considered complete, each of the 99 ratings was prioritized. When assessing the priority of a rating, its relative importance to the Navy is the characteristic being evaluated. For the purpose of this thesis, a rating's priority was considered as its relative contribution in two aspects of the Navy's mission:

1. How much does the rating contribute to combat readiness for the Navy?
2. To what extent does the rating contribute to the Navy's role in deterring the national threat?

The process of prioritizing Navy ratings is admittedly a subjective one regardless of the methodology employed. The relative priority of the 99 ratings is derived using a procedure called the Delphi method: a panel of Navy experts is used to develop a consensus of opinion concerning the relative importance of each rating to the Navy.

B. THE DELPHI METHOD AS APPLIED TO PRIORITIZING NAVY RATINGS

A Delphi method [Pill, 1971] was used to garner information on the relative importance of Navy ratings. Since the Retention Severity Index (RSI) is intended to augment the SRB-related interactions of OP-132, OP-135, and OP-136, the

panel of experts should include Navy officers in these departments most closely associated with the SRB Program. However, time and operational constraints did not permit participation by those officers and another panel of experts was chosen from Naval officers on the faculty and staff of the U.S. Naval Postgraduate School. In selecting the experts, attention was focused on each expert's naval background and years of experience. This screening process resulted in a panel of experts highly diversified in professional training and experience.

The Delphi method used in the RSI was developed by Thomas (1981). Thomas' technique involved an iterative process wherein each expert was asked to assign a numerical "scale value" of importance to each of the 99 ratings. The rating scale used by the experts was anchored at 10 for the Musician (MU) rating and 90 for the Machinist's Mate (MM) rating. The range of the numerical scale permissible was restricted to 0 to 100. Thus, the largest permissible scale value for a rating was 100 with the smallest permissible scale value set at 0.

In round one of the Delphi method, each of the 'n' experts scored all 97 ratings other than the MU and MM ratings. The scale values from each expert were compared with the other experts' scale values for agreement. If there were no information (no agreement) among the 'n' experts, then their scale values for the ratings not in agreement could be seen as a

sample from a uniform distribution with mean 50 and variance 833 [Winkler, 1978].

In testing for agreement among the experts' scale values for a rating, two computations were required. First, the sample variance (S_j^2) was calculated for the j^{th} rating by using:

$$S_j^2 = \sum_{k=1}^n \frac{(x_{jk} - \bar{x}_j)^2}{n-1} \quad (4.1)$$

where:

- j = rating/AB, ABE, ..., UT, YN
- n = number of experts
- \bar{x}_j = the mean scale value for the j^{th} rating
- x_{jk} = the k^{th} expert's scale value for the j^{th} rating

Next, the test statistic (A_j) was computed for the j^{th} rating. As the experts' scale values for a rating approach agreement, the value of the test statistic approaches zero. Each rating's test statistic was calculated as:

$$A_j = \frac{(n-1) S_j^2}{833} \quad (4.2)$$

where:

- n = number of experts

The test statistic was evaluated for agreement by its chi-square (χ^2) distribution with $n-1$ degrees of freedom. For example, if $n = 10$, the lower 5% critical value of the chi-square with 9 degrees of freedom is 3.33. Figure 4.1 graphically depicts the chi-square range for agreement. The chi-square distribution for A_j was interpreted as the critical value for agreement where the "range of agreement" for A_j is 0 to 3.33. Thus, a rating with a test statistic less than or equal to 3.33 was said to be in agreement. Each rating in agreement was assigned its mean scale value (\bar{X}_j). Those ratings for which A_j was greater than 3.33 were not in agreement and were reassessed in the second round.

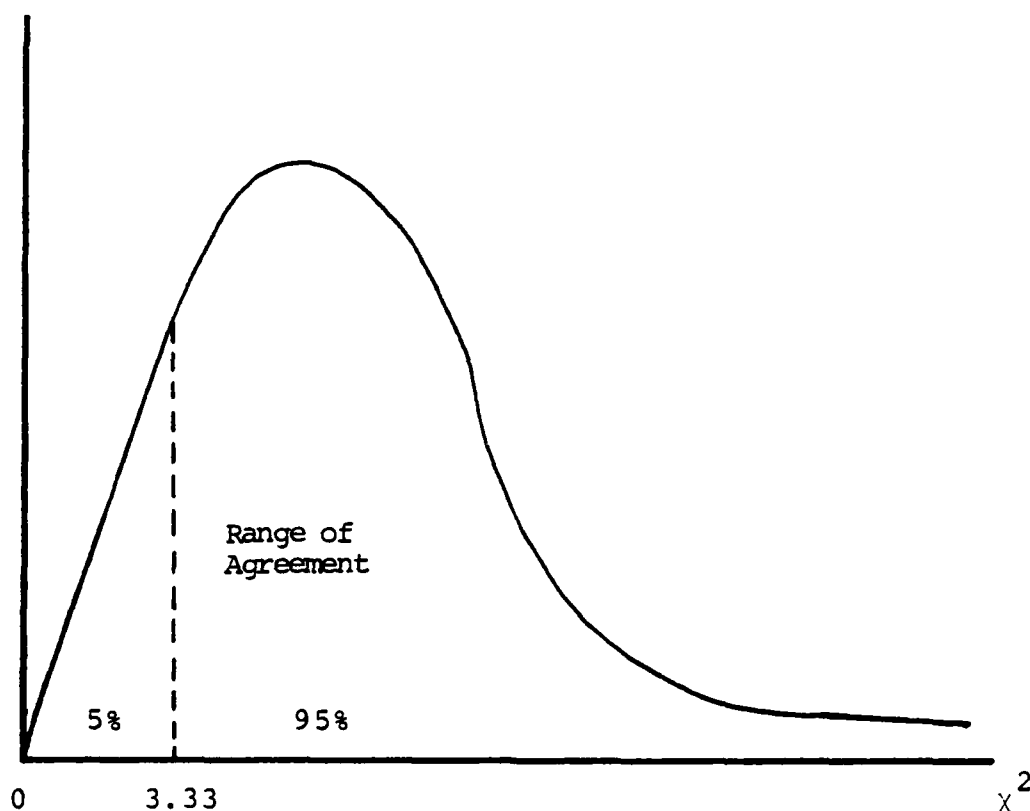


Figure 4.1 Chi-Square Range of Agreement

In the second round, the ratings found to be in agreement after the first round were assigned their respective mean scale values. Each expert was then asked to assign new scale values only to those ratings not in agreement after round one. These new scale values were evaluated for agreement using the same procedures used in round one. New values were calculated for S_j^2 and A_j for the j^{th} rating. The chi-square range of agreement criteria (0 to 3.33) was applied to these new values of A_j (the same as in round one).

After each iteration (round), the coefficient of concordance, as discussed by Kendall (1970), was calculated. If the value of the coefficient of concordance exceeded .95, no further iterations were required. Otherwise, the iterative process as detailed for round two was repeated for each rating until either agreement was achieved for each rating or the fourth iteration was reached. The ratings not in agreement after the fourth round were assigned their respective mean scale values (\bar{X}_j).

C. SUMMARY

The final scale values (priority values) are listed in Table 4.1. These priority values for the 99 ratings were ranked from 1 for the rating with the lowest priority value to 99 for the rating with the highest priority value. The rankings for zones A, B, and C are listed in Appendix E, Tables E-4, E-5, and E-6. Each reenlistment zone uses identical priority scale values and rankings.

TABLE 4.1

Priority Values for Navy Ratings

| <u>RATING</u> | <u>PRIORITY</u> | <u>RATING</u> | <u>PRIORITY</u> | <u>RATING</u> | <u>PRIORITY</u> |
|---------------|-----------------|---------------|-----------------|---------------|-----------------|
| AB | 75 | CTI | 76 | HT | 80 |
| ABE | 79 | CTM | 74 | IC | 79 |
| ABF | 75 | CTO | 74 | IM | 70 |
| ABH | 75 | CTR | 75 | IS | 69 |
| AC | 90 | CTT | 75 | JO | 29 |
| AD | 81 | CU | 62 | LI | 39 |
| AE | 81 | DK | 76 | LN | 34 |
| AF | 80 | DM | 53 | MA | 24 |
| AG | 73 | DP | 75 | ML | 44 |
| AK | 68 | DS | 79 | MM | 90 |
| AM | 81 | DT | 54 | MN | 50 |
| AME | 76 | EA | 58 | MR | 77 |
| AMH | 76 | EM | 79 | MS | 65 |
| AMS | 76 | EN | 80 | MT | 83 |
| AO | 79 | EO | 53 | MU | 10 |
| AQ | 87 | EQ | 54 | NC | 39 |
| AS | 76 | ET | 86 | OM | 49 |
| ASE | 79 | EW | 90 | OS | 79 |
| ASM | 78 | FT | 87 | OT | 75 |
| AT | 84 | FTB | 92 | PC | 49 |
| AV | 84 | FTG | 80 | PH | 51 |
| AW | 90 | FTM | 87 | PI | 58 |
| AX | 83 | GM | 83 | PM | 47 |
| AZ | 71 | GMG | 77 | PN | 63 |
| BM | 69 | CMM | 82 | PR | 71 |
| BT | 80 | GMT | 81 | QM | 82 |
| BU | 62 | GS | 87 | RM | 87 |
| CE | 62 | GSE | 80 | RP | 15 |
| CM | 62 | GSM | 80 | SH | 64 |
| CTA | 65 | HM | 79 | SK | 72 |

TABLE 4.1 (CONT.)

| <u>RATING</u> | <u>PRIORITY</u> |
|---------------|-----------------|
| SM | 74 |
| ST | 84 |
| STG | 81 |
| STS | 82 |
| SW | 63 |
| TD | 60 |
| TM | 79 |
| UT | 55 |
| YN | 60 |

V. DERIVATION OF THE RETENTION SEVERITY INDEX

A. RSI COMPONENTS

In the preceding chapters, the individual components (variables) selected as essential for expressing the relative retention severity for Navy ratings were developed. In total, five components were identified. These components are summarized in Table 5.1.

TABLE 5.1

Retention Severity Index Components

| <u>Component</u> | <u>Description</u> |
|------------------|---|
| Shortage | % inventory shortage <u>vs</u> authorizations |
| Growth | % change in future billets authorized |
| Size | Current manpower inventory |
| Cost | Adjusted billet cost for a rating |
| Priority | A rating's importance to the Navy |

Having identified the five essential components necessary to determine the severity of losing an experienced service-member, the next step was to group the data by SRB zones. Listed in Appendix E, Tables E-1, E-2, and E-3 are the five components for each of the 99 ratings in zone A, B, and C, respectively. To make the data in Tables E-1, E-2, and E-3 easier to interpret, the data were standardized.

In standardizing the component data, each component was transformed to a standardized numerical scale using the formula:

$$z_{mj}^k = 50 \pm 10 \left(\frac{x_{mj}^k - \mu_{X_{mj}^k}}{\sigma_{X_{mj}^k}} \right) \quad (5.1)$$

where:

- x_{mj}^k = basic data on mth RSI factor for the j^{th} rating in zone k
- $\mu_{X_{mj}^k}$ = mean of x_{mj}^k over all ratings
- $\sigma_{X_{mj}^k}$ = standard deviation of x_{mj}^k over all ratings
- m = component/1,...,5
- j = rating/AB,ABE,...,UT,YN
- k = zone/A,B,C

For the components Growth, Storage, Cost, and Priority, the adjusted standard deviation of z_{mj}^k is added to the mean of 50. For the component, Size, the adjusted standard deviation is subtracted from the mean of 50. This placed all standardized component values on a scale where larger Z-values are indicative of more severe retention problems. Equation 5.1 was applied to all component values listed in Appendix E, Tables E-1, E-2, and E-3. The Z-values for these tables are shown in Appendix E, Tables E-7, E-8, and E-9, respectively.

The relationship of the RSI's five components to each other was analyzed to determine if all five components were

required to develop a Retention Severity Index. The method used to analyze the interrelationships of the candidate components was to inspect the rankings that would result from the individual factors (components) and to evaluate the similarity of these rankings. The results of rank-ordering the component data from zones A, B, and C are shown in Appendix E, Tables E-4, E-5, and E-6 for zones A, B, and C, respectively. Testing the five components for similarity was accomplished by computing the Pearson correlation coefficient for each component. These correlation coefficients are shown for each zone in Table 5.2.

Pearson correlation coefficients are interpreted such that a coefficient of 1.0 is the highest degree of correlation between two components (variables). A correlation coefficient greater than 0.70 would reflect a high degree of correlation or similarity between two components. As shown in Table 5.2, there was no high degree of correlation among the five RSI components. The highest correlation for each zone was between Cost and Priority with all correlation coefficients being less than 0.60. Hence, on this basis, no component could be dropped from the analysis without loss of information. Thus, each component was deemed essential to determining a rating's retention severity in zones A, B, and C.

B. A COMPOSITE INDEX

The intent of any expression of retention severity for Navy ratings is to provide a single usable index for each

TABLE 5.2

Pearson Correlation for Retention Severity Components

Pearson Correlation Coefficients From Zone A

| | Shortage | Growth | Cost | Priority |
|----------|----------|--------|-------|----------|
| Growth | -.046 | | | |
| Cost | .165 | .241 | | |
| Priority | -.179 | .066 | .257 | |
| Size | -.171 | .018 | -.156 | -.337 |

Pearson Correlation Coefficients From Zone B

| | Shortage | Growth | Cost | Priority |
|----------|----------|--------|-------|----------|
| Growth | .217 | | | |
| Cost | .250 | .291 | | |
| Priority | -.243 | .066 | .329 | |
| Size | -.060 | .031 | -.313 | -.317 |

Pearson Correlation Coefficients From Zone C

| | Shortage | Growth | Cost | Priority |
|----------|----------|--------|-------|----------|
| Growth | .086 | | | |
| Cost | .355 | .200 | | |
| Priority | .068 | .066 | .550 | |
| Size | -.277 | .015 | -.138 | -.215 |

rating's retention status relative to all other ratings that captures the information on multiple factors important to retaining experienced personnel. Having demonstrated, by means of the Pearson correlation test, that information on all five components were required to make a determination of retention severity, these components were combined into a composite index: the Retention Severity Index. To derive a single mathematical expression for the Retention Severity Index, the component indices were combined using the following multiattribute function:

$$RSI_j^k = \sum_{m=1}^5 w_m z_{mj}^k \quad (5.2)$$

where:

- k = zone/A,B,C
- j = rating/AB,ABE,...,UT,YN
- m = component/1,...,5
- w_m = relative weights of importance for component m
- z_{mj}^k = standardized value for rating j of component m in zone k

Equation 5.2 was developed from the additive multiattribute utility model discussed by van Gigh (1978). To account for the relative importance of each of the five component indices, each index was weighted by its respective coefficient of importance value (w_m). The method by which the

relative importance of the m^{th} component index (w_m) was obtained is discussed in the following section.

C. MULTIVARIATE ANALYSIS OF THE RSI COMPONENT INDICES

The technique employed in analyzing the relative importance of each component index was adapted from the work of Edwards (1976). The process involved a single iteration wherein a panel of ten M.S. degree students in the Manpower, Personnel, and Training Analysis program at the U.S. Naval Postgraduate School were given a list of the five component indices. Each expert was asked to assign an importance value to each component index using a numerical scale of 1 to 10 with a score of 10 being the scale value of highest importance.

Each expert's responses were put into matrix E, where E_{mn} is the n^{th} expert's scale value for each component m. The experts' scale values were summed for each component index using:

$$C_m = \sum_{n=1}^{10} E_{mn} \quad (5.3)$$

where:

m = components/1,...,5

n = experts/1,...,10

The weight (w) for the m^{th} component index was then computed using:

The results of Equation 5.4 are shown in Table 5.3.

TABLE 5.3
Weighting Factors of RSI Component Indices

| <u>RSI Component</u> | <u>Total Scale Values</u> | <u>Weight (w_m)</u> |
|--------------------------|-------------------------------|----------------------------------|
| Shortage | 41 | .1175 |
| Priority | 82 | .2350 |
| Growth | 80 | .2292 |
| Cost | 84 | .2407 |
| Size | <u>62</u> | <u>.1776</u> |
| | 349 (total) | 1.0000 (total) |

In Equation 5.2, the Retention Severity Index was expressed in the general form of the additive multiattribute utility model. Having developed the appropriate weights (w_m) for the five component indices, the RSI is complete. Applying Equation 5.2 to the Z-values for each zone given in Appendix E, Tables E-7, E-8, and E-9, results in the RSI values listed in Table 5.4.

D. APPLICATION OF THE FY-82 RSI RESULTS

Typically, a manpower model such as the Retention Severity Index would use input data from the current fiscal year to make predictions (estimates) for the following fiscal year. For example, FY-82 input data used in the RSI

TABLE 5.4

FY-82 Retention Severity Index Values by Reenlistment Zones

| RATING | Zone A | | Zone B | | Zone C | |
|--------|-----------|------|-----------|------|-----------|------|
| | RSI Value | Rank | RSI Value | Rank | RSI Value | Rank |
| AB | 42.5 | 6 | 39.6 | 3 | 40.7 | 4 |
| ABE | 50.9 | 57 | 51.2 | 57 | 51.0 | 61 |
| ABF | 49.9 | 46 | 50.0 | 45 | 49.8 | 47 |
| ABH | 49.7 | 43 | 49.7 | 41 | 49.6 | 42 |
| AC | 52.9 | 77 | 52.8 | 75 | 52.2 | 73 |
| AD | 50.1 | 48 | 50.7 | 53 | 47.9 | 28 |
| AE | 51.4 | 68 | 52.3 | 71 | 49.5 | 39 |
| AF | 45.3 | 9 | 42.3 | 6 | 43.4 | 6 |
| AG | 49.2 | 40 | 50.0 | 44 | 51.0 | 62 |
| AK | 48.4 | 34 | 48.4 | 31 | 48.1 | 29 |
| AM | 55.1 | 92 | 41.3 | 5 | 49.2 | 37 |
| AME | 53.1 | 79 | 53.7 | 83 | 52.6 | 78 |
| AMH | 51.9 | 72 | 51.6 | 62 | 49.7 | 45 |
| AMS | 49.2 | 41 | 49.9 | 42 | 48.8 | 34 |
| AO | 50.2 | 49 | 50.6 | 52 | 49.7 | 43 |
| AQ | 55.0 | 90 | 55.3 | 90 | 53.4 | 84 |
| AS | 54.5 | 85 | 55.1 | 89 | 51.9 | 70 |
| ASE | 55.8 | 93 | 55.9 | 94 | 51.9 | 71 |
| ASM | 48.1 | 31 | 48.2 | 30 | 44.0 | 8 |
| AT | 51.1 | 64 | 50.4 | 47 | 49.8 | 46 |
| AV | 46.1 | 13 | 43.1 | 8 | 44.2 | 9 |
| AW | 62.3 | 99 | 60.6 | 99 | 59.5 | 97 |
| AX | 54.7 | 88 | 54.9 | 86 | 53.5 | 85 |
| AZ | 48.8 | 36 | 49.3 | 35 | 48.5 | 33 |
| BM | 47.6 | 26 | 46.3 | 19 | 45.7 | 14 |
| BT | 46.9 | 22 | 46.5 | 20 | 47.9 | 27 |
| BU | 50.4 | 51 | 51.6 | 63 | 50.4 | 53 |
| CE | 50.2 | 50 | 51.3 | 58 | 50.0 | 49 |

*From Equation 5.2

TABLE 5.4 (Cont.)

| RATING | Zone A | | Zone B | | Zone C | |
|--------|-----------|------|-----------|------|-----------|------|
| | RSI Value | Rank | RSI Value | Rank | RSI Value | Rank |
| CM | 51.1 | 61 | 52.1 | 69 | 51.4 | 66 |
| CTA | 50.4 | 53 | 49.9 | 43 | 49.5 | 41 |
| CTI | 50.9 | 58 | 51.1 | 56 | 50.9 | 60 |
| CTM | 54.5 | 86 | 53.1 | 78 | 53.1 | 82 |
| CTO | 51.0 | 59 | 50.6 | 50 | 50.3 | 52 |
| CTR | 53.3 | 80 | 53.0 | 76 | 52.3 | 76 |
| CTT | 57.6 | 96 | 56.9 | 96 | 55.9 | 91 |
| CU | 40.8 | 3 | 37.9 | 2 | 39.0 | 2 |
| DK | 50.9 | 56 | 51.6 | 65 | 51.6 | 68 |
| DM | 45.8 | 11 | 46.3 | 18 | 45.8 | 16 |
| DP | 51.3 | 67 | 52.1 | 70 | 52.2 | 74 |
| DS | 53.9 | 82 | 54.9 | 85 | 55.2 | 89 |
| DT | 46.6 | 19 | 46.6 | 21 | 46.7 | 24 |
| EA | 47.9 | 29 | 49.4 | 39 | 48.1 | 30 |
| EM | 47.9 | 28 | 49.2 | 34 | 50.1 | 51 |
| EN | 49.7 | 44 | 50.9 | 55 | 50.7 | 57 |
| EO | 48.8 | 37 | 50.1 | 46 | 49.7 | 44 |
| EQ | 40.7 | 2 | 37.7 | 1 | 38.8 | 1 |
| ET | 46.5 | 18 | 48.5 | 32 | 50.0 | 50 |
| EW | 55.0 | 89 | 56.0 | 95 | 55.1 | 87 |
| FT | 46.9 | 23 | 44.0 | 9 | 60.7 | 98 |
| FTB | 55.9 | 94 | 55.7 | 91 | 56.1 | 92 |
| FTG | 54.5 | 84 | 55.8 | 92 | 55.0 | 86 |
| FTM | 55.9 | 95 | 55.9 | 93 | 56.4 | 93 |
| GM | 47.3 | 25 | 44.4 | 13 | 61.3 | 99 |
| GMG | 51.1 | 62 | 51.7 | 67 | 50.5 | 55 |
| GMM | 54.6 | 87 | 55.0 | 87 | 55.1 | 88 |
| GMT | 49.0 | 39 | 49.6 | 40 | 49.1 | 36 |
| GS | 45.9 | 12 | 43.0 | 7 | 58.3 | 94 |
| GSE | 59.6 | 98 | 59.4 | 98 | 59.4 | 96 |
| GSM | 58.7 | 97 | 59.3 | 97 | 58.8 | 95 |
| HM | 46.4 | 17 | 46.0 | 17 | 45.0 | 11 |

TABLE 5.4 (CONT.)

| <u>RATING</u> | <u>Zone A</u> | | <u>Zone B</u> | | <u>Zone C</u> | |
|---------------|------------------|-------------|------------------|-------------|------------------|-------------|
| | <u>RSI Value</u> | <u>Rank</u> | <u>RSI Value</u> | <u>Rank</u> | <u>RSI Value</u> | <u>Rank</u> |
| HT | 49.5 | 42 | 50.6 | 51 | 49.5 | 40 |
| IC | 49.9 | 45 | 51.4 | 61 | 50.8 | 58 |
| IM | 52.4 | 75 | 53.5 | 81 | 51.7 | 69 |
| IS | 53.0 | 78 | 53.6 | 82 | 52.4 | 77 |
| JO | 43.9 | 7 | 44.3 | 12 | 43.9 | 7 |
| LI | 46.1 | 15 | 46.8 | 23 | 46.3 | 18 |
| LN | 46.1 | 14 | 45.7 | 15 | 45.1 | 12 |
| MA | 36.3 | 1 | 47.3 | 26 | 45.8 | 15 |
| ML | 48.4 | 33 | 49.3 | 37 | 48.4 | 32 |
| MM | 42.5 | 5 | 44.1 | 11 | 46.3 | 17 |
| MN | 48.6 | 35 | 48.1 | 28 | 46.6 | 22 |
| MR | 52.3 | 74 | 53.2 | 80 | 52.3 | 75 |
| MS | 45.7 | 10 | 45.1 | 14 | 44.3 | 10 |
| MT | 52.8 | 76 | 52.4 | 72 | 52.1 | 72 |
| MU | 41.4 | 4 | 41.4 | 4 | 39.7 | 3 |
| NC | 47.8 | 27 | 49.3 | 38 | 46.6 | 23 |
| OM | 50.6 | 55 | 51.4 | 60 | 50.4 | 54 |
| OS | 50.6 | 54 | 51.3 | 59 | 51.1 | 64 |
| OT | 53.5 | 81 | 54.0 | 84 | 52.9 | 80 |
| PC | 46.6 | 20 | 47.1 | 25 | 46.5 | 19 |
| PH | 46.7 | 21 | 47.4 | 27 | 46.6 | 21 |
| PI | 55.0 | 91 | 52.1 | 68 | 53.2 | 83 |
| PM | 48.0 | 30 | 49.3 | 36 | 48.2 | 31 |
| PN | 46.3 | 16 | 45.9 | 16 | 46.6 | 20 |
| PR | 51.6 | 69 | 51.6 | 66 | 50.8 | 59 |
| QM | 52.0 | 73 | 53.0 | 77 | 52.6 | 79 |
| RM | 48.9 | 38 | 49.1 | 33 | 47.2 | 26 |
| RP | 51.8 | 71 | 52.6 | 74 | 51.3 | 65 |
| SH | 47.1 | 24 | 47.0 | 24 | 45.5 | 13 |
| SK | 48.2 | 32 | 46.7 | 22 | 47.1 | 25 |
| SM | 50.4 | 52 | 50.6 | 49 | 50.7 | 56 |

TABLE 5.4 (CONT.)

| <u>RATING</u> | <u>Zone A</u> | | <u>Zone B</u> | | <u>Zone C</u> | |
|---------------|------------------|-------------|------------------|-------------|------------------|-------------|
| | <u>RSI Value</u> | <u>Rank</u> | <u>RSI Value</u> | <u>Rank</u> | <u>RSI Value</u> | <u>Rank</u> |
| ST | 51.1 | 65 | 48.2 | 29 | 49.3 | 38 |
| STG | 51.3 | 66 | 53.1 | 79 | 52.9 | 81 |
| STS | 54.4 | 83 | 55.1 | 88 | 55.2 | 90 |
| SW | 51.0 | 60 | 52.5 | 73 | 51.5 | 67 |
| TD | 51.1 | 63 | 50.5 | 48 | 49.1 | 35 |
| TM | 51.6 | 70 | 51.6 | 64 | 51.1 | 63 |
| UT | 50.0 | 47 | 50.8 | 54 | 49.8 | 48 |
| YN | 44.7 | 8 | 44.1 | 10 | 42.8 | 5 |

would generate output for assisting in the FY-83 SRB bonus multiple assignment negotiations. The Retention Severity Index, as developed in this thesis, was not intended to predict SRB bonus multiple assignments. The RSI may be thought of as reflecting a composition of demand elements that enter into the SRB multiple determination. However, the SRB multiple determination includes as well supply elements such as cost effective concepts like bonus elasticities. To expect a high degree of correlation of the computed RSI values with bonus multiple assignments would be unwarranted.

A listing of the 99 ratings' SRB bonus multiple assignments for fiscal years 1982 and 1983 were obtained from OP-136 (SRB Manager). Each fiscal year's bonus multiple assignments were separated into SRB zones A, B, and C. The bonus multiples in each zone for the three fiscal years were then ranked as shown in Appendix F, Tables F-1 and F-2 for FY-82 and FY-83, respectively.

Table 5.5 shows the Pearson correlation coefficients for each zone (A, B, C) in each fiscal year (82 and 83). As was expected, the FY-82 RSI values derived in this thesis did not exhibit a strong correlation with the SRB bonus multiples for FY-82 and FY-83. Still, the RSI values for zone B showed a correlation greater than .5 for FY-82 and FY-83. That was an indication that one or more of the RSI components had been influential during the negotiation process for bonus multiple assignments. To verify that hypothesis, the SRB

bonus multiples were tested for correlation with the five RSI components individually.

TABLE 5.5
Correlation of SRB Bonus Multiples with RSI Values

| | | |
|------------------------------|------------------|------------------|
| (ZONE A) RSI ^A | SRB (82) .461 | SRB (83) .409 |
| (ZONE B) RSI ^B | SRB (82) .571 | SRB (83) .551 |
| (ZONE C) RSI ^C | SRB (82) .266 | SRB (83) .411 |

Table 5.6 shows the Pearson correlation coefficients calculated for the five RSI components and the bonus multiple assignments. The correlation coefficients are listed by SRB zones (A, B, C). As indicated in Table 5.5, the FY-82 and FY-83 bonus multiples correlated with the RSI values from zone B. In Table 5.6, the RSI components from zone B that show the highest correlation are Cost and Priority. Cost is significantly higher in correlation with bonus multiples for zones A and B than the other RSI components. In FY-83, the Cost component is the most significant RSI component only for zone C.

TABLE 5.6

Correlation of SRB Bonus Multiples with RSI Components

| <u>ZONE A</u> | <u>Shortage</u> | <u>Growth</u> | <u>Cost</u> | <u>Priority</u> | <u>Size</u> |
|---------------|-----------------|---------------|-------------|-----------------|-------------|
| SRB (82) | .301 | .203 | .610 | .456 | -.368 |
| SRB (83) | .332 | .127 | .561 | .490 | -.319 |
| <u>ZONE B</u> | <u>Shortage</u> | <u>Growth</u> | <u>Cost</u> | <u>Priority</u> | <u>Size</u> |
| SRB (82) | .183 | .185 | .650 | .507 | -.312 |
| SRB (83) | .204 | .215 | .665 | .473 | -.301 |
| <u>ZONE C</u> | <u>Shortage</u> | <u>Growth</u> | <u>Cost</u> | <u>Priority</u> | <u>Size</u> |
| SRB (82) | .394 | -.121 | .404 | .412 | -.198 |
| SRB (83) | .442 | .077 | .567 | .521 | -.067 |

E. SUMMARY

In this chapter, the five RSI components were standardized to a numerical scale with mean 50 and standard deviation 10. Each component was ranked, then analyzed for correlation with the other four components. This correlation analysis indicated each component was required for developing a Retention Severity Index. The RSI values for each rating were analyzed for correlation with actual SRB multiples that were assigned for FY-82 and FY-83.

The two components exhibiting the highest degree of correlation were Cost and Priority, particularly for zone B data. The computed FY-82 RSI values for the 99 ratings were ranked using a scale of 1 for the least severe in terms of retention severity to 99 for the most severe. For zone A, the MA rating was ranked the lowest with the AW rating ranked the

highest. In zone B, the EQ rating was ranked least severe for retention and the AW rating was ranked most severe. Zone C rankings of RSI values showed the EQ rating to be least severe for retention and the GM rating the most severe rating for retention.

VI. SUMMARY AND RECOMMENDATIONS

A. SUMMARY

The purpose of this thesis was to develop a Retention Severity Index (RSI) for 99 Navy ratings. Retention of experienced personnel may be viewed as a function of two sets of fundamental factors: (1) the Navy's demand for experienced personnel and (2) the supply of reenlistees. The RSI focused on the demand factors since time and operational resources did not permit analysis of both the supply and demand issues.

A total of five factors (components) were identified as having a significant impact on retention severity among Navy ratings: (1) Shortage, (2) Growth, (3) Size, (4) Cost, and (5) Priority. The Retention Severity Index's intent was to assist OP-136 and OP-132 in assigning Selective Reenlistment Bonus (SRB) multiples. Therefore, the five RSI components were adjusted to be compatible with SRB reenlistment zones A, B, and C.

The Shortage component was derived for each SRB zone from FY-82 current manpower inventory data as compared to FY-82 billets authorized for each of the 99 ratings. Billets authorized are expressed only by paygrade while current inventories were available by paygrade and length of service. Therefore, the two dominant paygrades in each SRB zone were identified from the current inventory data. The dominant paygrade data for current inventories and billets authorized

were used to derive an expression of shortage in current manning levels for each rating.

The Growth component was derived from the FY-82 billets authorized data and the projected (FY-86) billets authorized as estimated by the POM-84 Objective Forces Model. Owing to the nature of the Growth component, it was not deemed essential to adjust the Growth data for each SRB zone.

The Size component was derived for each zone from the FY-82 current inventory data. This derivation process required dividing each rating's current manpower inventory into length of service (LOS) categories corresponding to zones A, B, and C.

The data source for the Cost component was the Enlisted Billet Cost Model (BCM) developed by Frankel (1983). Each of the 99 ratings' billet cost was adjusted for zones A, B, and C by the percentage current inventories in each zone. A summation of these proportioned billet costs for each paygrade in a rating resulted in a single cost that was representative of the current inventory for each rating in each zone.

The fifth component, Priority, was developed using a Delphi method for obtaining a consensus of opinion from a panel of Navy experts. In this iterative process, the experts assessed the importance of the 99 ratings relative to the Navy's missions.

The five RSI components were used as input data for an additive multiattribute model. Each component was weighted

by a weighting factor developed through a multivariate analysis of the relative contribution of each RSI component to retention severity among Navy ratings. The multiattribute RSI model yielded three sets of RSI values for the 99 ratings; one set for each SRB zone.

Actual SRB bonus multiple assignments for FY-82 and FY-83 were tested for correlation with the computed RSI values. A moderate correlation of the RSI values from zone B with the FY-82 and FY-83 zone B bonus multiples resulted, which indicated that one or more RSI component data were influential in current SRB bonus multiple negotiations between OP-132 and OP-136. A correlation analysis of SRB award levels with ranks of components as having the most significant correlation with the bonus multiples.

B. RECOMMENDATIONS FOR FURTHER STUDY

The Retention Severity Index is a useful tool for the SRB Manager (OP-136) and the Enlisted Community Managers (OP-132) to the extent that it expresses the relative impact of the Navy's retention requirements on each of the 99 ratings. The need still exists, however, for a cost effectiveness analysis of reenlistment incentives particularly reenlistment elasticities with respect to reenlistment bonuses. A type of cost effectiveness study was conducted by Butler et al. (1980) in which a computer model was developed specifically for aiding the SRB Manager allocate the current fiscal year's SRB budget and estimate future SRB budget

requirements. This model, B/REFT, initially was intended as a temporary means of budget forecasting for OP-136, but it has evolved as one of the primary tools for determining the SRB multiples each fiscal year.

Having derived a Retention Severity Index that reflects the Navy's demand for reenlistments, the next logical step would be to examine the feasibility of incorporating the RSI and B/REFT in a single model. That model's purpose would be to determine the optimum allocation of SRB funds given the Navy's need for experienced personnel and a cost effective analysis of achieving the desired manning levels.

APPENDIX A

GLOSSARY OF MANPOWER TERMS

Apprenticeship Rating: a term used to encompass enlisted personnel who do not possess a rating (i.e., personnel in paygrades E1, E2, and E3).

Billets Authorized: enlisted billets (occupations) for which funding has been provided and for which the quality (pay-grade) mix has been authorized by the Chief of Naval Operations as a requirement to perform the billet functions.

Current Manpower Inventory: the total number of enlisted personnel in the Navy performing active duty regardless of their reimbursable status or chargeability to strength ceilings. Naval Reserve personnel performing active duty for training and retired Naval personnel recalled for special projects are excluded from this count.

Enlisted Programmed Authorizations (EPA): total Navy billets which are presently forecast to be written for each end-fiscal year.

Objective Force Model (OFM): a manpower model used to size and shape the career force to meet projected requirements. OFM uses long range hardware requirements to project mid and long range manpower demands. OFM produces an inventory distribution of billets authorized by paygrade and length of service for each rating. The model's principal input is the EPA. OFM forecasts three years in the future to provide stepping stones toward Objective Force manning of the 15 Battle Group Navy of the 1990's.

Rate: identifies enlisted personnel occupationally by paygrade. Within a rating, a rate reflects levels of aptitude, training, experience, knowledge, skills, and responsibilities. For example, the Boatswain's Mate rating is translated from paygrades E4 through E9 as Boatswain's Mate Third Class (BM3), Boatswain's Mate Second Class (BM2), Boatswain's Mate First Class (BM1), Chief Boatswain's Mate (BMC), Senior Chief Boatswain's Mate (BMCS), and Master Chief Boatswain's Mate (BMCM). Additionally, paygrades E1, E2, and E3 are rates: Airman Recruit (AR), Airman Apprentice (AA), and Airman (AN).

Rating: the occupation of a petty officer that requires job related aptitudes, knowledge, training, and skill. Examples of ratings are Boatswain's Mate (BM), Disbursing Clerk (DK), and Aviation Ordnanceman (AO). Navy ratings are comprised of only the top six paygrades (E4, E5, E6, E7, E8, E9).

Striker: enlisted personnel in the apprenticeship ratings who have received training at Naval schools or aboard ship in the duties of a particular rating and who are authorized to be specifically designated for advancement to that rating.

APPENDIX B: ENLISTED RATINGS

TABLE B-1

Enlisted Ratings Used in the Retention Severity Index

| <u>RATING ACRONYM</u> | <u>RATING NAME</u> |
|---------------------------|--|
| AB | Aviation Boatswain's Mate |
| ABE | Aviation Boatswain's Mate (Launching and Recovery) |
| ABF | Aviation Boatswain's Mate (Fuels) |
| ABH | Aviation Boatswain's Mate (Aircraft Handling) |
| AC | Air Controlman |
| AD | Aviation Machinist's Mate |
| AE | Aviation Electrician's Mate |
| AF | Aircraft Maintencenceman |
| AG | Aerographer's Mate |
| AK | Aviation Storekeeper |
| AM | Aviation Structural Mechanic |
| AME | Aviation Structural Mechanic (Safety Equipment) |
| AMH | Aviation Structural Mechanic (Hydraulics) |
| AMS | Aviation Structural Mechanic (Structures) |
| AO | Aviation Ordnanceman |
| AQ | Aviation Fire Control Technician |
| AS | Aviation Support Equipment Technician |
| ASE | Aviation Support Equipment Technician (Electrical) |
| ASM | Aviation Support Equipment Technician (Mechanical) |
| AT | Aviation Electronics Technician |
| AV | Avionics Technician |
| AW | Aviation Antisubmarine Warfare Operator |
| AX | Aviation Antisubmarine Warfare Technician |
| AZ | Aviation Maintenance Administrationman |
| BM | Boatswain's Mate |
| BT | Boiler Technician |
| BU | Builder |

TABLE B-1 (CONT.)

| <u>RATING ACRONYM</u> | <u>RATING NAME</u> |
|---------------------------|---|
| CE | Construction Electrician |
| CM | Construction Mechanic |
| CTA | Communications Technician (Administrative) |
| CTI | Communications Technician (Interpretive) |
| CTM | Communications Technician (Maintenance) |
| CTO | Communications Technician (Communications) |
| CTR | Communications Technician (Collection) |
| CTT | Communications Technician (Technical) |
| CU | Constructionman |
| DK | Disbursing Clerk |
| DM | Illustrator Draftsman |
| DP | Data Processing Technician |
| DS | Data Systems Technician |
| DT | Dental Technician |
| EA | Engineering Aid |
| EM | Electrician's Mate |
| EN | Engineman |
| EO | Equipment Operator |
| EQ | Equipmentman |
| ET | Electronics Technician |
| EW | Electronic Warfare Technician |
| FT | Fire Control Technician |
| FTB | Fire Control Technician (Ballistic Missile Fire Control) |
| FTG | Fire Control Technician (Gun Fire Control) |
| FTM | Fire Control Technician (Surface Missile Fire Control) |
| GM | Gunner's Mate |
| GMG | Gunner's Mate (Guns) |
| GMM | Gunner's Mate (Missiles) |
| GMT | Gunner's Mate (Technician) |
| GS | Gas Turbine Systems Technician |

TABLE B-1 (CONT.)

| <u>RATING ACRONYM</u> | <u>RATING NAME</u> |
|---------------------------|---|
| GSE | Gas Turbine Systems Technician (Electrical) |
| GSM | Gas Turbine Systems Technician (Mechanical) |
| HM | Hospital Corpsman |
| HT | Hull Maintenance Technician |
| IC | Interior Communications Electrician |
| IM | Instrumentman |
| IS | Intelligence Specialist |
| JO | Journalist |
| LI | Lithographer |
| LN | Legalman |
| MA | Master-at-Arms |
| ML | Molder |
| MM | Machinist's Mate |
| MN | Mineman |
| MR | Machinery Repairman |
| MS | Mess Management Specialist |
| MT | Missile Technician |
| MU | Musician |
| NC | Navy Counselor |
| OM | Opticalman |
| OS | Operations Specialist |
| OT | Ocean Systems Technician |
| PC | Postal Clerk |
| PH | Photographer's Mate |
| PI | Precision Instrumentman |
| PM | Patternmaker |
| PN | Personnelman |
| PR | Aircrew Survival Equipmentman |
| QM | Quartermaster |
| RM | Radioman |
| RP | Religious Program Specialist |

TABLE B-1 (CONT.)

| <u>RATING ACRONYM</u> | <u>RATING NAME</u> |
|---------------------------|------------------------------|
| SH | Ship's Serviceman |
| SK | Storekeeper |
| SM | Signalman |
| ST | Sonar Technician |
| STG | Sonar Technician (Surface) |
| STS | Sonar Technician (Submarine) |
| SW | Steelworker |
| TD | Trademan |
| TM | Torpedoman's Mate |
| UT | Utilitiesman |
| YN | Yeoman |

TABLE B-2
Apprenticeship Enlisted Ratings

| <u>RATING ACRONYM</u> | <u>RATING NAME</u> |
|---------------------------|----------------------------|
| AR | Airman Recruit |
| AA | Airman Apprentice |
| AN | Airman |
| CR | Constructionman Recruit |
| CA | Constructionman Apprentice |
| CN | Constructionman |
| DR | Dentalman Recruit |
| DA | Dentalman Apprentice |
| DN | Dentalman |
| FR | Fireman Recruit |
| FA | Fireman Apprentice |
| FN | Fireman |
| HR | Hospitalman Recruit |
| HA | Hospitalman Apprentice |
| HN | Hospitalman |
| SR | Seaman Recruit |
| SA | Seaman Apprentice |
| SN | Seaman |

TABLE B-3
Senior Enlisted Ratings

| <u>RATING ACRONYM</u> | <u>RATING NAME</u> |
|---------------------------|---------------------------------------|
| AB | Aviation Boatswain's Mate |
| AF | Aircraft Maintenceman |
| AM | Aviation Structural Mechanic |
| AS | Aviation Support Equipment Technician |
| AV | Avionics Technician |
| CU | Constructionman |
| EM | Electrician's Mate |
| EQ | Equipmentman |
| FT | Fire Control Technician |
| GM | Gunner's Mate |
| GS | Gas Turbine Systems Technician |
| ML | Molder |
| PI | Precision Instrumentman |
| St | Sonar Technician |
| UT | Utilitiesman |

APPENDIX C: MANPOWER REQUIREMENTS

TABLE C-1

FY-82 Current Manpower Inventories For Reenlistment Zone A

| RATING | Paygrades | | | | | | TOTAL |
|--------|-----------|------|----|----|----|----|-------|
| | E4 | E5 | E6 | E7 | E8 | E9 | |
| AB | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABE | 436 | 246 | 0 | 1 | 0 | 0 | 683 |
| ABF | 463 | 107 | 4 | 0 | 0 | 0 | 574 |
| ABH | 932 | 227 | 2 | 0 | 0 | 0 | 1161 |
| AC | 421 | 591 | 9 | 1 | 0 | 0 | 1022 |
| AD | 2607 | 1242 | 10 | 0 | 1 | 0 | 3860 |
| AE | 1686 | 1092 | 9 | 1 | 0 | 0 | 2788 |
| AF | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AG | 389 | 314 | 1 | 0 | 0 | 0 | 704 |
| AK | 1053 | 559 | 6 | 0 | 0 | 0 | 1618 |
| AM | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| AME | 564 | 330 | 3 | 0 | 0 | 0 | 897 |
| AMH | 1245 | 418 | 3 | 0 | 0 | 0 | 1666 |
| AMS | 2124 | 710 | 14 | 1 | 0 | 0 | 2849 |
| AO | 1190 | 783 | 15 | 0 | 0 | 0 | 1988 |
| AQ | 466 | 632 | 12 | 1 | 0 | 0 | 1111 |
| AS | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| ASE | 162 | 96 | 0 | 0 | 0 | 0 | 258 |
| ASM | 425 | 70 | 0 | 0 | 0 | 0 | 495 |
| AT | 1967 | 1912 | 49 | 2 | 0 | 0 | 3930 |
| AV | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AW | 478 | 564 | 13 | 0 | 1 | 0 | 1056 |
| AX | 307 | 291 | 16 | 0 | 0 | 0 | 614 |
| AZ | 647 | 346 | 1 | 1 | 0 | 0 | 995 |
| BM | 2249 | 790 | 22 | 2 | 0 | 0 | 3063 |
| BT | 2399 | 1480 | 5 | 1 | 0 | 0 | 3885 |
| BU | 577 | 399 | 4 | 1 | 0 | 0 | 981 |
| CE | 229 | 191 | 1 | 0 | 0 | 0 | 421 |
| CM | 358 | 166 | 1 | 1 | 0 | 0 | 526 |
| CTA | 192 | 154 | 2 | 1 | 0 | 0 | 349 |

TABLE C-1 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|------|------|-----|----|----|----|-------|
| CTI | 165 | 148 | 2 | 0 | 0 | 0 | 315 |
| CTM | 530 | 394 | 11 | 0 | 0 | 0 | 935 |
| CTO | 381 | 202 | 1 | 0 | 0 | 0 | 584 |
| CTR | 312 | 186 | 0 | 0 | 0 | 0 | 498 |
| CTT | 339 | 284 | 3 | 1 | 0 | 0 | 627 |
| CU | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DK | 550 | 292 | 0 | 0 | 0 | 0 | 842 |
| DM | 89 | 43 | 1 | 0 | 0 | 0 | 133 |
| DP | 973 | 673 | 12 | 0 | 0 | 0 | 1658 |
| DS | 666 | 799 | 34 | 0 | 0 | 0 | 1499 |
| DT | 782 | 257 | 0 | 2 | 0 | 0 | 1041 |
| EA | 72 | 60 | 0 | 0 | 0 | 0 | 132 |
| EM | 2788 | 2401 | 119 | 1 | 0 | 1 | 5310 |
| EN | 1893 | 910 | 8 | 2 | 1 | 0 | 2814 |
| EO | 464 | 214 | 1 | 0 | 0 | 0 | 679 |
| EQ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ET | 3267 | 4938 | 168 | 0 | 0 | 0 | 8373 |
| EW | 419 | 519 | 8 | 0 | 0 | 0 | 946 |
| FT | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FTB | 174 | 297 | 6 | 0 | 0 | 0 | 477 |
| FTG | 580 | 890 | 56 | 1 | 0 | 0 | 1527 |
| FTM | 590 | 779 | 15 | 0 | 0 | 0 | 1384 |
| GM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GMG | 651 | 402 | 5 | 1 | 0 | 0 | 1059 |
| GMM | 249 | 217 | 3 | 0 | 0 | 0 | 469 |
| GMT | 364 | 276 | 4 | 0 | 0 | 0 | 644 |
| GS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GSE | 65 | 120 | 10 | 0 | 0 | 0 | 195 |
| GSM | 226 | 311 | 14 | 0 | 0 | 0 | 551 |
| HM | 4962 | 1929 | 53 | 7 | 0 | 0 | 6951 |
| HT | 2327 | 1414 | 34 | 2 | 0 | 1 | 3778 |
| IC | 1101 | 1250 | 88 | 2 | 0 | 0 | 2441 |
| IM | 76 | 58 | 3 | 1 | 0 | 0 | 138 |

TABLE C-1 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|------|------|-----|----|----|----|-------|
| IS | 168 | 245 | 10 | 2 | 1 | 0 | 426 |
| JO | 175 | 142 | 3 | 0 | 0 | 0 | 320 |
| LI | 134 | 68 | 1 | 0 | 0 | 0 | 203 |
| LN | 0 | 86 | 4 | 0 | 0 | 0 | 90 |
| MA | 0 | 36 | 10 | 2 | 0 | 0 | 48 |
| ML | 24 | 16 | 0 | 0 | 0 | 0 | 40 |
| MM | 5262 | 5474 | 570 | 1 | 0 | 1 | 11308 |
| MN | 110 | 50 | 0 | 0 | 0 | 0 | 160 |
| MR | 477 | 238 | 3 | 0 | 0 | 0 | 718 |
| MS | 3080 | 809 | 3 | 0 | 0 | 0 | 3892 |
| MT | 380 | 552 | 9 | 0 | 0 | 0 | 941 |
| MU | 78 | 37 | 28 | 1 | 0 | 0 | 144 |
| NC | 0 | 2 | 1 | 0 | 0 | 0 | 3 |
| OM | 52 | 27 | 0 | 0 | 0 | 0 | 79 |
| OS | 1749 | 1081 | 10 | 2 | 0 | 0 | 2842 |
| OT | 340 | 199 | 2 | 1 | 0 | 0 | 542 |
| PC | 306 | 54 | 1 | 0 | 0 | 0 | 361 |
| PH | 517 | 398 | 5 | 1 | 0 | 0 | 921 |
| PI | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM | 29 | 18 | 0 | 0 | 0 | 0 | 47 |
| PN | 1404 | 1249 | 31 | 1 | 1 | 0 | 2686 |
| PR | 402 | 246 | 1 | 1 | 0 | 0 | 650 |
| QM | 723 | 461 | 9 | 2 | 0 | 0 | 1195 |
| RM | 2875 | 2030 | 52 | 2 | 1 | 0 | 4960 |
| RP | 114 | 102 | 3 | 0 | 0 | 0 | 219 |
| SH | 1014 | 311 | 1 | 0 | 0 | 0 | 1326 |
| SK | 1422 | 958 | 12 | 3 | 1 | 0 | 2396 |
| SM | 497 | 311 | 4 | 0 | 0 | 0 | 812 |
| ST | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| STG | 685 | 1136 | 55 | 1 | 0 | 0 | 1877 |
| STS | 706 | 634 | 610 | 0 | 0 | 0 | 1950 |
| SW | 248 | 113 | 1 | 0 | 0 | 0 | 362 |
| TD | 411 | 338 | 2 | 0 | 0 | 0 | 751 |

TABLE C-1 (CONT.)

| <u>RATING</u> | <u>E4</u> | <u>E5</u> | <u>E6</u> | <u>E7</u> | <u>E8</u> | <u>E9</u> | <u>TOTAL</u> |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| TM | 733 | 553 | 8 | 0 | 0 | 0 | 1294 |
| UT | 262 | 142 | 1 | 0 | 0 | 0 | 405 |
| YN | 2479 | 1571 | 76 | 2 | 0 | 0 | 4128 |

Source: FY-82 Navy Military Personnel Statistics:
Annual Report

TABLE C-2

FY-82 Current Manpower Inventories For Reenlistment Zone B

| RATING | Paygrades | | | | | | TOTAL |
|--------|-----------|------|-----|----|----|----|-------|
| | E4 | E5 | E6 | E7 | E8 | E9 | |
| AB | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABE | 25 | 179 | 113 | 1 | 0 | 0 | 318 |
| ABF | 76 | 134 | 83 | 1 | 0 | 0 | 294 |
| ABH | 136 | 248 | 158 | 0 | 0 | 0 | 542 |
| AC | 32 | 236 | 281 | 3 | 0 | 0 | 552 |
| AD | 182 | 971 | 486 | 3 | 2 | 0 | 1644 |
| AE | 20 | 614 | 456 | 1 | 0 | 0 | 1091 |
| AF | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AG | 11 | 117 | 115 | 0 | 0 | 0 | 243 |
| AK | 111 | 584 | 136 | 1 | 0 | 0 | 832 |
| AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AME | 29 | 219 | 140 | 0 | 0 | 0 | 388 |
| AMH | 124 | 633 | 219 | 0 | 0 | 0 | 976 |
| AMS | 172 | 600 | 402 | 2 | 0 | 0 | 1176 |
| AO | 71 | 445 | 393 | 0 | 0 | 0 | 909 |
| AQ | 27 | 215 | 180 | 2 | 0 | 0 | 424 |
| AS | 0 | 0 | 35 | 1 | 0 | 0 | 36 |
| ASE | 16 | 79 | 0 | 0 | 0 | 0 | 95 |
| ASM | 51 | 148 | 0 | 0 | 0 | 0 | 199 |
| AT | 133 | 1023 | 837 | 10 | 0 | 0 | 2003 |
| AV | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AW | 32 | 247 | 396 | 1 | 0 | 0 | 676 |
| AX | 15 | 135 | 144 | 4 | 0 | 0 | 298 |
| AZ | 90 | 321 | 100 | 2 | 0 | 0 | 513 |
| BM | 277 | 1128 | 598 | 5 | 2 | 0 | 2010 |
| BT | 172 | 979 | 689 | 6 | 0 | 0 | 1846 |
| BU | 19 | 189 | 75 | 5 | 0 | 0 | 288 |
| CE | 10 | 81 | 48 | 3 | 0 | 0 | 142 |
| CM | 23 | 107 | 17 | 1 | 0 | 0 | 148 |
| CTA | 11 | 155 | 73 | 0 | 0 | 0 | 239 |

TABLE C-2 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|-----|------|------|----|----|----|-------|
| CTI | 18 | 89 | 113 | 0 | 0 | 0 | 220 |
| CTM | 48 | 280 | 195 | 5 | 0 | 0 | 528 |
| CTO | 54 | 207 | 104 | 0 | 0 | 0 | 365 |
| CTR | 23 | 191 | 71 | 0 | 0 | 1 | 286 |
| CTT | 25 | 158 | 154 | 2 | 0 | 0 | 339 |
| CU | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DK | 22 | 230 | 167 | 0 | 0 | 0 | 419 |
| DM | 9 | 50 | 23 | 2 | 0 | 0 | 84 |
| DP | 55 | 273 | 231 | 5 | 1 | 0 | 565 |
| DS | 21 | 233 | 354 | 7 | 0 | 0 | 615 |
| DT | 82 | 280 | 91 | 0 | 0 | 0 | 453 |
| EA | 1 | 15 | 12 | 0 | 0 | 0 | 28 |
| EM | 146 | 741 | 1010 | 26 | 0 | 1 | 1924 |
| EN | 84 | 527 | 453 | 2 | 2 | 0 | 1068 |
| EO | 16 | 143 | 36 | 0 | 0 | 0 | 195 |
| EQ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ET | 139 | 941 | 1727 | 22 | 0 | 1 | 2830 |
| EW | 28 | 76 | 148 | 12 | 0 | 0 | 264 |
| FT | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FTB | 9 | 57 | 152 | 3 | 0 | 0 | 221 |
| FTG | 27 | 122 | 271 | 17 | 0 | 0 | 437 |
| FTM | 33 | 251 | 362 | 17 | 0 | 0 | 663 |
| GM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GMG | 51 | 297 | 268 | 2 | 0 | 0 | 618 |
| GMM | 9 | 134 | 128 | 1 | 0 | 0 | 272 |
| GMT | 30 | 116 | 195 | 3 | 0 | 0 | 344 |
| GS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GSE | 5 | 62 | 77 | 5 | 0 | 0 | 149 |
| GSM | 12 | 91 | 95 | 2 | 0 | 0 | 200 |
| HM | 415 | 1786 | 954 | 10 | 0 | 2 | 3167 |
| HT | 107 | 670 | 735 | 14 | 0 | 1 | 1527 |
| IC | 40 | 326 | 426 | 11 | 0 | 0 | 803 |
| IM | 3 | 31 | 31 | 1 | 0 | 0 | 66 |

TABLE C-2 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|-----|------|------|----|----|----|-------|
| IS | 14 | 72 | 70 | 0 | 0 | 0 | 156 |
| JO | 12 | 61 | 61 | 4 | 1 | 1 | 140 |
| LI | 9 | 50 | 25 | 1 | 0 | 0 | 85 |
| LN | 0 | 44 | 58 | 0 | 0 | 0 | 102 |
| MA | 0 | 136 | 110 | 3 | 1 | 0 | 250 |
| ML | 1 | 8 | 16 | 0 | 0 | 0 | 25 |
| MM | 697 | 1401 | 2096 | 82 | 1 | 1 | 4278 |
| MN | 5 | 69 | 30 | 0 | 0 | 0 | 104 |
| MR | 23 | 176 | 213 | 2 | 0 | 0 | 414 |
| MS | 608 | 1475 | 121 | 3 | 0 | 0 | 2207 |
| MT | 9 | 249 | 195 | 0 | 0 | 0 | 453 |
| MU | 23 | 54 | 38 | 5 | 1 | 0 | 121 |
| NC | 0 | 9 | 133 | 11 | 1 | 0 | 154 |
| OM | 2 | 23 | 26 | 0 | 0 | 0 | 51 |
| OS | 125 | 586 | 529 | 6 | 0 | 0 | 1246 |
| OT | 10 | 117 | 124 | 0 | 0 | 0 | 251 |
| PC | 44 | 85 | 29 | 1 | 0 | 0 | 159 |
| PH | 38 | 122 | 88 | 2 | 0 | 0 | 250 |
| PI | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM | 1 | 7 | 3 | 0 | 0 | 0 | 11 |
| PN | 64 | 551 | 796 | 17 | 3 | 0 | 1431 |
| PR | 26 | 236 | 80 | 0 | 0 | 0 | 342 |
| QM | 47 | 234 | 250 | 9 | 1 | 0 | 541 |
| RM | 175 | 1261 | 786 | 2 | 0 | 0 | 2224 |
| RP | 9 | 39 | 35 | 0 | 0 | 0 | 83 |
| SH | 112 | 541 | 191 | 3 | 0 | 0 | 847 |
| SK | 110 | 904 | 777 | 14 | 0 | 0 | 1805 |
| SM | 50 | 247 | 175 | 0 | 0 | 0 | 472 |
| ST | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| STG | 32 | 178 | 275 | 20 | 0 | 0 | 505 |
| STS | 28 | 135 | 339 | 25 | 0 | 0 | 527 |
| SW | 9 | 39 | 33 | 0 | 0 | 0 | 81 |
| TD | 19 | 266 | 209 | 1 | 0 | 0 | 495 |

TABLE C-2 (CONT.)

| <u>RATING</u> | <u>E4</u> | <u>E5</u> | <u>E6</u> | <u>E7</u> | <u>E8</u> | <u>E9</u> | <u>TOTAL</u> |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| TM | 49 | 306 | 332 | 3 | 0 | 0 | 690 |
| UT | 12 | 128 | 27 | 3 | 0 | 0 | 170 |
| YM | 141 | 1124 | 878 | 20 | 0 | 2 | 2165 |

Source: FY-82 Navy Military Personnel Statistics:
Annual Report

TABLE C-3

FY-82 Current Manpower Inventories For Reenlistment Zone C

| RATING | Paygrades | | | | | | TOTAL |
|--------|-----------|-----|------|-----|----|----|-------|
| | E4 | E5 | E6 | E7 | E8 | E9 | |
| AB | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABE | 2 | 23 | 101 | 59 | 0 | 0 | 185 |
| ABF | 3 | 35 | 80 | 71 | 0 | 0 | 189 |
| ABH | 13 | 45 | 227 | 33 | 0 | 0 | 318 |
| AC | 1 | 22 | 241 | 64 | 0 | 0 | 328 |
| AD | 19 | 233 | 1037 | 225 | 14 | 0 | 1528 |
| AE | 7 | 105 | 764 | 165 | 7 | 0 | 1048 |
| AF | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AG | 2 | 11 | 16 | 26 | 0 | 0 | 55 |
| AK | 16 | 133 | 313 | 56 | 0 | 0 | 518 |
| AM | 0 | 0 | 0 | 0 | 3 | 0 | 3 |
| AME | 4 | 34 | 215 | 27 | 0 | 0 | 280 |
| AMH | 13 | 155 | 514 | 153 | 0 | 0 | 835 |
| AMS | 20 | 124 | 557 | 148 | 0 | 0 | 849 |
| AO | 3 | 63 | 503 | 69 | 1 | 0 | 639 |
| AQ | 2 | 51 | 267 | 47 | 4 | 0 | 371 |
| AS | 0 | 0 | 184 | 31 | 0 | 0 | 215 |
| ASE | 1 | 31 | 0 | 0 | 0 | 0 | 32 |
| ASM | 9 | 90 | 0 | 0 | 0 | 0 | 99 |
| AT | 15 | 177 | 806 | 174 | 4 | 0 | 1176 |
| AV | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AW | 2 | 11 | 238 | 85 | 1 | 0 | 337 |
| AX | 1 | 25 | 132 | 59 | 1 | 0 | 218 |
| AZ | 8 | 83 | 275 | 28 | 0 | 0 | 394 |
| BM | 31 | 234 | 843 | 234 | 7 | 0 | 1349 |
| BT | 18 | 110 | 437 | 242 | 2 | 1 | 810 |
| BU | 1 | 29 | 195 | 46 | 3 | 0 | 274 |
| CE | 2 | 35 | 83 | 13 | 0 | 0 | 133 |
| CM | 1 | 38 | 82 | 11 | 0 | 0 | 132 |
| CTA | 0 | 12 | 94 | 40 | 1 | 0 | 147 |

TABLE C-3 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|----|-----|------|-----|----|----|-------|
| CTI | 1 | 9 | 83 | 22 | 0 | 0 | 115 |
| CTM | 4 | 13 | 96 | 22 | 0 | 0 | 135 |
| CTO | 5 | 17 | 139 | 35 | 0 | 0 | 196 |
| CTR | 1 | 19 | 145 | 32 | 0 | 0 | 197 |
| CTT | 1 | 9 | 129 | 33 | 0 | 0 | 172 |
| CU | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DK | 2 | 27 | 161 | 18 | 2 | 0 | 210 |
| DM | 0 | 9 | 35 | 6 | 0 | 0 | 50 |
| DP | 2 | 32 | 202 | 68 | 0 | 0 | 304 |
| DS | 4 | 20 | 148 | 42 | 1 | 0 | 215 |
| DT | 4 | 48 | 160 | 40 | 1 | 0 | 253 |
| EA | 0 | 1 | 29 | 8 | 0 | 0 | 38 |
| EM | 17 | 69 | 488 | 349 | 16 | 0 | 939 |
| EN | 10 | 72 | 468 | 115 | 3 | 0 | 668 |
| EO | 5 | 46 | 69 | 7 | 0 | 0 | 127 |
| EQ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ET | 9 | 59 | 797 | 336 | 8 | 0 | 1209 |
| EW | 0 | 17 | 72 | 56 | 0 | 0 | 145 |
| FT | 0 | 0 | 0 | 0 | 5 | 0 | 5 |
| FTB | 0 | 1 | 30 | 47 | 0 | 0 | 78 |
| FTG | 2 | 16 | 110 | 146 | 0 | 0 | 274 |
| FTM | 2 | 19 | 94 | 76 | 0 | 0 | 191 |
| GM | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| GMG | 6 | 21 | 390 | 87 | 0 | 0 | 504 |
| GMM | 2 | 13 | 72 | 49 | 0 | 0 | 136 |
| GMT | 1 | 9 | 152 | 23 | 0 | 0 | 185 |
| GS | 0 | 0 | 0 | 0 | 3 | 0 | 3 |
| GSE | 0 | 3 | 49 | 35 | 0 | 0 | 87 |
| GSM | 4 | 6 | 62 | 38 | 0 | 0 | 110 |
| HM | 28 | 249 | 1381 | 483 | 7 | 1 | 2149 |
| HT | 9 | 99 | 664 | 333 | 6 | 1 | 1112 |
| IC | 6 | 43 | 282 | 189 | 2 | 0 | 522 |
| IM | 1 | 5 | 55 | 17 | 0 | 0 | 78 |

TABLE C-3 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|----|-----|------|-----|----|----|-------|
| IS | 0 | 14 | 105 | 17 | 0 | 0 | 136 |
| JO | 0 | 12 | 64 | 24 | 0 | 0 | 100 |
| LI | 1 | 13 | 33 | 9 | 0 | 0 | 56 |
| LN | 0 | 4 | 52 | 23 | 0 | 0 | 79 |
| MA | 0 | 30 | 315 | 48 | 1 | 0 | 394 |
| ML | 0 | 3 | 16 | 6 | 0 | 0 | 25 |
| MM | 30 | 140 | 1080 | 809 | 38 | 1 | 2098 |
| MN | 0 | 16 | 63 | 15 | 0 | 0 | 94 |
| MR | 2 | 33 | 182 | 50 | 1 | 0 | 268 |
| MS | 83 | 737 | 627 | 69 | 2 | 0 | 1518 |
| MT | 1 | 10 | 165 | 58 | 0 | 0 | 234 |
| MU | 5 | 39 | 75 | 14 | 3 | 1 | 137 |
| NC | 0 | 1 | 265 | 109 | 4 | 2 | 381 |
| OM | 0 | 2 | 32 | 8 | 0 | 0 | 42 |
| OS | 12 | 76 | 413 | 176 | 10 | 0 | 687 |
| OT | 0 | 10 | 135 | 28 | 0 | 0 | 173 |
| PC | 7 | 37 | 80 | 7 | 0 | 0 | 131 |
| PH | 1 | 13 | 127 | 22 | 0 | 0 | 163 |
| PI | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM | 0 | 2 | 15 | 5 | 0 | 0 | 22 |
| PN | 12 | 53 | 406 | 295 | 6 | 1 | 773 |
| PR | 5 | 47 | 153 | 19 | 0 | 1 | 225 |
| QM | 9 | 50 | 200 | 155 | 2 | 0 | 416 |
| RM | 19 | 191 | 1216 | 233 | 3 | 0 | 1662 |
| RP | 0 | 14 | 60 | 21 | 0 | 0 | 95 |
| SH | 33 | 225 | 394 | 81 | 4 | 0 | 737 |
| SK | 16 | 169 | 579 | 243 | 2 | 0 | 1009 |
| SM | 5 | 28 | 172 | 45 | 0 | 0 | 250 |
| ST | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| STG | 3 | 8 | 131 | 86 | 0 | 0 | 228 |
| STS | 1 | 6 | 95 | 85 | 8 | 0 | 195 |
| SW | 1 | 8 | 56 | 22 | 1 | 0 | 88 |
| TD | 3 | 28 | 269 | 35 | 2 | 0 | 337 |

TABLE C-3 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|----|-----|------|-----|----|----|-------|
| TM | 8 | 20 | 327 | 60 | 0 | 0 | 415 |
| UT | 0 | 44 | 83 | 14 | 0 | 1 | 142 |
| YM | 16 | 175 | 1017 | 360 | 10 | 0 | 1578 |

Source: FY-82 Navy Military Personnel Statistics:
Annual Report

TABLE C-4

FY-82 Distribution of Current Manpower Inventories in Zone A*

| RATING | Paygrades | | | | | |
|--------|-----------|------|-------|-----|-------|----|
| | E4 | E5 | E6 | E7 | E8 | E9 |
| AB | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| ABE | 63.8 | 36.0 | 0.0 | 0.1 | 0.0 | 0 |
| ABF | 80.7 | 18.6 | 0.7 | 0.0 | 0.0 | 0 |
| ABH | 80.3 | 19.6 | 0.2 | 0.0 | 0.0 | 0 |
| AC | 41.2 | 57.8 | 0.9 | 0.1 | 0.0 | 0 |
| AD | 67.5 | 32.2 | 0.3 | 0.0 | 0.0 | 0 |
| AE | 60.5 | 39.2 | 0.3 | 0.0 | 0.0 | 0 |
| AF | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| AG | 55.3 | 44.6 | 0.1 | 0.0 | 0.0 | 0 |
| AK | 65.1 | 34.5 | 0.4 | 0.0 | 0.0 | 0 |
| AM | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0 |
| AME | 62.9 | 36.8 | 0.3 | 0.0 | 0.0 | 0 |
| AMH | 74.7 | 25.1 | 0.2 | 0.0 | 0.0 | 0 |
| AMS | 74.6 | 24.9 | 0.5 | 0.0 | 0.0 | 0 |
| AO | 59.9 | 39.4 | 0.8 | 0.0 | 0.0 | 0 |
| AQ | 41.9 | 56.9 | 1.1 | 0.1 | 0.0 | 0 |
| AS | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 0 |
| ASE | 62.8 | 37.2 | 0.0 | 0.0 | 0.0 | 0 |
| ASM | 85.9 | 14.1 | 0.0 | 0.0 | 0.0 | 0 |
| AT | 50.1 | 48.7 | 1.2 | 0.1 | 0.0 | 0 |
| AV | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| AW | 45.3 | 53.4 | 1.2 | 0.0 | 0.1 | 0 |
| AX | 50.0 | 47.4 | 2.6 | 0.0 | 0.0 | 0 |
| AZ | 65.0 | 34.8 | 0.1 | 0.1 | 0.0 | 0 |
| BM | 73.4 | 25.8 | 0.7 | 0.1 | 0.0 | 0 |
| BT | 61.8 | 38.1 | 0.1 | 0.0 | 0.0 | 0 |
| BU | 58.8 | 40.7 | 0.4 | 0.1 | 0.0 | 0 |
| CE | 54.4 | 45.4 | 0.2 | 0.0 | 0.0 | 0 |
| CM | 68.1 | 31.6 | 0.2 | 0.2 | 0.0 | 0 |
| CTA | 55.0 | 44.1 | 0.6 | 0.3 | 0.0 | 0 |

*From Equation 2.1

AD-A132 875

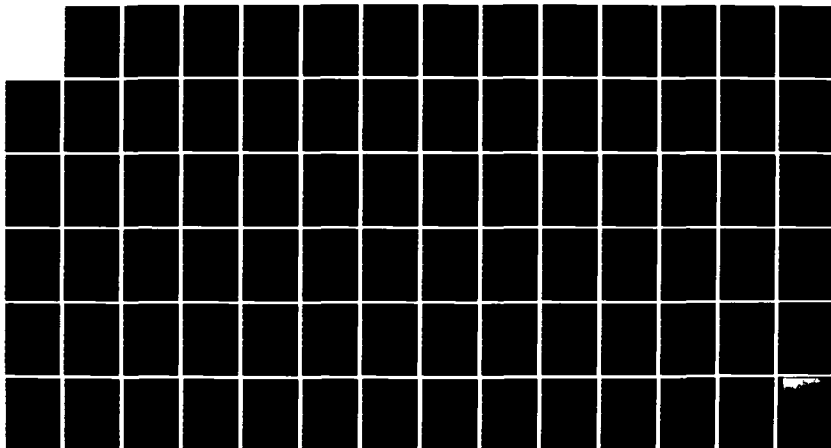
RETENTION SEVERITY IN THE NAVY: A COMPOSITE INDEX(U)
NAVAL POSTGRADUATE SCHOOL MONTEREY CA M A DRIGGERS
JUN 83

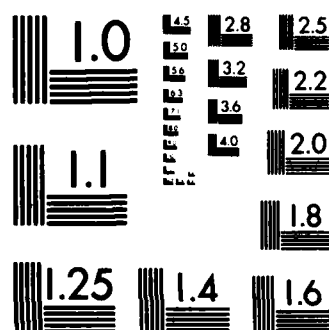
2/2

UNCLASSIFIED

F/G 5/9

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TABLE C-4 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|------|------|-----|-----|-----|----|
| CTI | 52.4 | 47.0 | 0.6 | 0.0 | 0.0 | 0 |
| CTM | 56.7 | 42.1 | 1.2 | 0.0 | 0.0 | 0 |
| CTO | 65.2 | 34.6 | 0.2 | 0.0 | 0.0 | 0 |
| CTR | 62.7 | 37.3 | 0.0 | 0.0 | 0.0 | 0 |
| CTT | 54.1 | 45.3 | 0.5 | 0.2 | 0.0 | 0 |
| CU | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| DK | 65.3 | 34.7 | 0.0 | 0.0 | 0.0 | 0 |
| DM | 66.9 | 32.3 | 0.8 | 0.0 | 0.0 | 0 |
| DP | 58.7 | 40.6 | 0.7 | 0.0 | 0.0 | 0 |
| DS | 44.4 | 53.3 | 2.3 | 0.0 | 0.0 | 0 |
| DT | 75.1 | 24.7 | 0.0 | 0.2 | 0.0 | 0 |
| EA | 54.5 | 45.5 | 0.0 | 0.0 | 0.0 | 0 |
| EM | 52.5 | 45.2 | 2.2 | 0.0 | 0.0 | 0 |
| EN | 67.3 | 32.3 | 0.3 | 0.1 | 0.0 | 0 |
| EO | 68.3 | 31.5 | 0.1 | 0.0 | 0.0 | 0 |
| EQ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| ET | 39.0 | 59.0 | 2.0 | 0.0 | 0.0 | 0 |
| EW | 44.3 | 54.9 | 0.8 | 0.0 | 0.0 | 0 |
| FT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| FTB | 36.5 | 62.3 | 1.3 | 0.0 | 0.0 | 0 |
| FTG | 38.0 | 58.3 | 3.7 | 0.1 | 0.0 | 0 |
| FTM | 42.6 | 56.3 | 1.1 | 0.0 | 0.0 | 0 |
| GM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| GMG | 61.5 | 38.0 | 0.5 | 0.1 | 0.0 | 0 |
| GMM | 53.1 | 46.3 | 0.6 | 0.0 | 0.0 | 0 |
| GMT | 56.5 | 42.9 | 0.6 | 0.0 | 0.0 | 0 |
| GS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| GSE | 33.3 | 61.5 | 5.1 | 0.0 | 0.0 | 0 |
| GSM | 41.0 | 56.4 | 2.5 | 0.0 | 0.0 | 0 |
| HM | 71.4 | 27.8 | 0.8 | 0.1 | 0.0 | 0 |
| HT | 61.6 | 37.4 | 0.9 | 0.1 | 0.0 | 0 |
| IC | 45.1 | 51.2 | 3.6 | 0.1 | 0.0 | 0 |
| IM | 55.1 | 42.0 | 2.2 | 0.7 | 0.0 | 0 |

TABLE C-4 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|------|------|------|-----|-----|----|
| IS | 39.4 | 57.5 | 2.3 | 0.5 | 0.2 | 0 |
| JO | 54.7 | 44.4 | 0.9 | 0.0 | 0.0 | 0 |
| LI | 66.0 | 33.5 | 0.5 | 0.0 | 0.0 | 0 |
| LN | 0.0 | 95.6 | 4.4 | 0.0 | 0.0 | 0 |
| MA | 0.0 | 75.0 | 20.8 | 4.2 | 0.0 | 0 |
| ML | 60.0 | 40.0 | 0.0 | 0.0 | 0.0 | 0 |
| MM | 46.5 | 48.4 | 5.0 | 0.0 | 0.0 | 0 |
| MN | 68.7 | 31.2 | 0.0 | 0.0 | 0.0 | 0 |
| MR | 66.4 | 33.1 | 0.4 | 0.0 | 0.0 | 0 |
| MS | 79.1 | 20.8 | 0.1 | 0.0 | 0.0 | 0 |
| MT | 40.4 | 58.7 | 1.0 | 0.0 | 0.0 | 0 |
| MU | 54.2 | 25.7 | 19.4 | 0.7 | 0.0 | 0 |
| NC | 0.0 | 66.7 | 33.3 | 0.0 | 0.0 | 0 |
| OM | 65.8 | 34.2 | 0.0 | 0.0 | 0.0 | 0 |
| OS | 61.5 | 38.0 | 0.4 | 0.1 | 0.0 | 0 |
| OT | 62.7 | 36.7 | 0.4 | 0.2 | 0.0 | 0 |
| PC | 84.8 | 15.0 | 0.3 | 0.0 | 0.0 | 0 |
| PH | 56.1 | 43.2 | 0.5 | 0.1 | 0.0 | 0 |
| PI | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| PM | 61.7 | 38.3 | 0.0 | 0.0 | 0.0 | 0 |
| PN | 52.3 | 46.5 | 1.2 | 0.0 | 0.0 | 0 |
| PR | 61.8 | 37.8 | 0.2 | 0.2 | 0.0 | 0 |
| QM | 60.5 | 38.6 | 0.8 | 0.2 | 0.0 | 0 |
| RM | 58.0 | 40.9 | 1.0 | 0.0 | 0.0 | 0 |
| RP | 52.1 | 46.6 | 1.4 | 0.0 | 0.0 | 0 |
| SH | 76.5 | 23.5 | 0.1 | 0.0 | 0.0 | 0 |
| SK | 59.3 | 40.0 | 0.5 | 0.1 | 0.0 | 0 |
| SM | 61.2 | 38.3 | 0.5 | 0.0 | 0.0 | 0 |
| ST | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| STG | 36.5 | 60.5 | 2.9 | 0.1 | 0.0 | 0 |
| STS | 36.2 | 32.5 | 31.3 | 0.0 | 0.0 | 0 |
| SW | 68.5 | 31.2 | 0.3 | 0.0 | 0.0 | 0 |
| TD | 54.7 | 45.0 | 0.3 | 0.0 | 0.0 | 0 |

TABLE C-4 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|------|------|-----|-----|-----|----|
| TM | 56.6 | 42.7 | 0.6 | 0.0 | 0.0 | 0 |
| UT | 64.7 | 35.1 | 0.2 | 0.0 | 0.0 | 0 |
| YM | 60.1 | 38.1 | 1.8 | 0.0 | 0.0 | 0 |

TABLE C-5

FY-82 Distribution of Current Manpower Inventories in Zone B*

| RATING | Paygrades | | | | | |
|--------|-----------|------|------|-----|-----|-----|
| | E4 | E5 | E6 | E7 | E8 | E9 |
| AB | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ABE | 7.9 | 56.3 | 35.5 | 0.3 | 0.0 | 0.0 |
| ABF | 25.9 | 45.6 | 28.2 | 0.3 | 0.0 | 0.0 |
| ABH | 25.1 | 45.8 | 29.2 | 0.0 | 0.0 | 0.0 |
| AC | 5.8 | 42.8 | 50.9 | 0.5 | 0.0 | 0.0 |
| AD | 11.1 | 59.1 | 29.6 | 0.2 | 0.1 | 0.0 |
| AE | 1.8 | 56.3 | 41.8 | 0.1 | 0.0 | 0.0 |
| AF | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| AG | 4.5 | 48.1 | 47.3 | 0.0 | 0.0 | 0.0 |
| AK | 13.3 | 70.2 | 16.3 | 0.1 | 0.0 | 0.0 |
| AM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| AME | 7.5 | 56.4 | 36.1 | 0.0 | 0.0 | 0.0 |
| AMH | 12.7 | 64.9 | 22.4 | 0.0 | 0.0 | 0.0 |
| AMS | 14.6 | 51.0 | 34.2 | 0.2 | 0.0 | 0.0 |
| AO | 7.8 | 49.0 | 43.2 | 0.0 | 0.0 | 0.0 |
| AQ | 6.4 | 50.7 | 42.5 | 0.5 | 0.0 | 0.0 |
| AS | 0.0 | 0.0 | 97.2 | 2.8 | 0.0 | 0.0 |
| ASE | 16.8 | 83.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| ASM | 25.6 | 74.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| AT | 6.6 | 51.1 | 41.8 | 0.5 | 0.0 | 0.0 |
| AV | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| AW | 4.7 | 36.5 | 58.6 | 0.1 | 0.0 | 0.0 |
| AX | 5.0 | 45.3 | 48.3 | 1.3 | 0.0 | 0.0 |
| AZ | 17.5 | 62.6 | 19.5 | 0.4 | 0.0 | 0.0 |
| BM | 13.8 | 56.1 | 29.8 | 0.2 | 0.1 | 0.0 |
| BT | 9.3 | 53.0 | 37.3 | 0.3 | 0.0 | 0.0 |
| BU | 6.6 | 65.6 | 26.0 | 1.7 | 0.0 | 0.0 |
| CE | 7.0 | 57.0 | 33.8 | 2.1 | 0.0 | 0.0 |
| CM | 15.5 | 72.3 | 11.5 | 0.7 | 0.0 | 0.0 |
| CTA | 4.6 | 64.9 | 30.5 | 0.0 | 0.0 | 0.0 |

* From Equation 2.1

TABLE C-5 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|------|------|------|-----|-----|-----|
| CTI | 8.2 | 40.5 | 51.4 | 0.0 | 0.0 | 0.0 |
| CTM | 9.1 | 53.0 | 36.9 | 0.9 | 0.0 | 0.0 |
| CTO | 14.8 | 56.7 | 28.5 | 0.0 | 0.0 | 0.0 |
| CTR | 8.0 | 66.8 | 24.8 | 0.0 | 0.0 | 0.3 |
| CTT | 7.4 | 46.6 | 45.4 | 0.6 | 0.0 | 0.0 |
| CU | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| DK | 5.3 | 54.9 | 39.9 | 0.0 | 0.0 | 0.0 |
| DM | 10.7 | 59.5 | 27.4 | 2.4 | 0.0 | 0.0 |
| DP | 9.7 | 48.3 | 40.9 | 0.9 | 0.2 | 0.0 |
| DS | 3.4 | 37.9 | 57.6 | 1.1 | 0.0 | 0.0 |
| DT | 18.1 | 61.8 | 20.1 | 0.0 | 0.0 | 0.0 |
| EA | 3.6 | 53.6 | 42.9 | 0.0 | 0.0 | 0.0 |
| EM | 7.6 | 38.5 | 52.5 | 1.4 | 0.0 | 0.1 |
| EN | 7.9 | 49.3 | 42.4 | 0.2 | 0.2 | 0.0 |
| EO | 8.2 | 73.3 | 18.5 | 0.0 | 0.0 | 0.0 |
| EQ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ET | 4.9 | 33.3 | 61.0 | 0.8 | 0.0 | 0.0 |
| EW | 10.6 | 28.8 | 56.1 | 4.5 | 0.0 | 0.0 |
| FT | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| FTB | 4.1 | 25.8 | 68.8 | 1.4 | 0.0 | 0.0 |
| FTG | 6.2 | 27.9 | 62.0 | 3.9 | 0.0 | 0.0 |
| FTM | 5.0 | 37.9 | 54.6 | 2.6 | 0.0 | 0.0 |
| GM | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GMG | 8.3 | 48.1 | 43.4 | 0.3 | 0.0 | 0.0 |
| GMM | 3.3 | 49.3 | 47.1 | 0.4 | 0.0 | 0.0 |
| GMT | 8.7 | 33.7 | 56.7 | 0.9 | 0.0 | 0.0 |
| GS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GSE | 3.4 | 41.6 | 51.7 | 3.4 | 0.0 | 0.0 |
| GSM | 6.0 | 45.5 | 47.5 | 1.0 | 0.0 | 0.0 |
| HM | 13.1 | 56.4 | 30.1 | 0.3 | 0.0 | 0.1 |
| HT | 7.0 | 43.9 | 48.1 | 0.9 | 0.0 | 0.1 |
| IC | 5.0 | 40.6 | 53.1 | 1.4 | 0.0 | 0.0 |
| IM | 4.5 | 47.0 | 47.0 | 1.5 | 0.0 | 0.0 |

Table C-5 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|------|------|------|-----|-----|-----|
| IS | 9.0 | 46.2 | 44.9 | 0.0 | 0.0 | 0.0 |
| JO | 8.6 | 43.6 | 43.6 | 2.9 | 0.7 | 0.7 |
| LI | 10.6 | 58.8 | 29.4 | 1.2 | 0.0 | 0.0 |
| LN | 0.0 | 43.1 | 56.9 | 0.0 | 0.0 | 0.0 |
| MA | 0.0 | 54.4 | 44.0 | 1.2 | 0.4 | 0.0 |
| ML | 4.0 | 32.0 | 64.0 | 0.0 | 0.0 | 0.0 |
| MM | 16.3 | 32.7 | 49.0 | 1.9 | 0.0 | 0.0 |
| MN | 4.8 | 66.3 | 28.8 | 0.0 | 0.0 | 0.0 |
| MR | 5.6 | 42.5 | 51.4 | 0.5 | 0.0 | 0.0 |
| MS | 27.5 | 66.8 | 5.5 | 0.1 | 0.0 | 0.0 |
| MT | 2.0 | 55.0 | 43.0 | 0.0 | 0.0 | 0.0 |
| MU | 19.0 | 44.6 | 31.4 | 4.1 | 0.8 | 0.0 |
| NC | 0.0 | 5.8 | 86.4 | 7.1 | 0.6 | 0.0 |
| OM | 3.9 | 45.1 | 51.0 | 0.0 | 0.0 | 0.0 |
| OS | 10.0 | 47.0 | 42.5 | 0.5 | 0.0 | 0.0 |
| OT | 4.0 | 46.6 | 49.4 | 0.0 | 0.0 | 0.0 |
| PC | 27.7 | 53.5 | 18.2 | 0.6 | 0.0 | 0.0 |
| PH | 15.2 | 48.8 | 35.2 | 0.8 | 0.0 | 0.0 |
| PI | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PM | 9.1 | 63.6 | 27.3 | 0.0 | 0.0 | 0.0 |
| PN | 4.5 | 38.5 | 55.6 | 1.2 | 0.2 | 0.0 |
| PR | 7.6 | 69.0 | 23.4 | 0.0 | 0.0 | 0.0 |
| QM | 8.7 | 43.3 | 46.2 | 1.7 | 0.2 | 0.0 |
| RM | 7.9 | 56.7 | 35.3 | 0.1 | 0.0 | 0.0 |
| RP | 10.8 | 47.0 | 42.2 | 0.0 | 0.0 | 0.0 |
| SH | 13.2 | 63.9 | 22.6 | 0.4 | 0.0 | 0.0 |
| SK | 6.1 | 50.1 | 43.0 | 0.8 | 0.0 | 0.0 |
| SM | 10.6 | 52.3 | 37.1 | 0.0 | 0.0 | 0.0 |
| ST | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| STG | 6.3 | 35.2 | 54.5 | 4.0 | 0.0 | 0.0 |
| STS | 5.3 | 25.6 | 64.3 | 4.7 | 0.0 | 0.0 |
| SW | 11.1 | 48.1 | 40.7 | 0.0 | 0.0 | 0.0 |
| TD | 3.8 | 53.7 | 42.2 | 0.2 | 0.0 | 0.0 |

TABLE C-5 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|-----|------|------|-----|-----|-----|
| TM | 7.1 | 44.3 | 48.1 | 0.4 | 0.0 | 0.0 |
| UT | 7.1 | 75.3 | 15.9 | 1.8 | 0.0 | 0.0 |
| YM | 6.5 | 51.9 | 40.6 | 0.9 | 0.0 | 0.1 |

TABLE C-6

FY-82 Distribution of Current Manpower Inventories In Zone C*

| RATING | Paygrades | | | | | |
|--------|-----------|------|------|------|-------|-------|
| | E4 | E5 | E6 | E7 | E8 | E9 |
| AB | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ABE | 1.1 | 12.4 | 54.6 | 31.9 | 0.0 | 0.0 |
| ABF | 1.6 | 18.5 | 42.3 | 37.6 | 0.0 | 0.0 |
| ABH | 4.1 | 14.2 | 71.4 | 10.4 | 0.0 | 0.0 |
| AC | 0.3 | 6.7 | 73.5 | 19.5 | 0.0 | 0.0 |
| AD | 1.2 | 15.2 | 67.9 | 14.7 | 0.9 | 0.9 |
| AE | 0.7 | 10.0 | 72.9 | 15.7 | 0.7 | 0.7 |
| AF | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| AG | 3.6 | 20.0 | 29.1 | 47.3 | 0.0 | 0.0 |
| AK | 3.1 | 25.7 | 60.4 | 10.8 | 0.0 | 0.0 |
| AM | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 100.0 |
| AME | 1.4 | 12.1 | 76.8 | 9.6 | 0.0 | 0.0 |
| AMH | 1.6 | 18.6 | 61.6 | 18.3 | 0.0 | 0.0 |
| AMS | 2.4 | 14.6 | 65.6 | 17.4 | 0.0 | 0.0 |
| AO | 0.5 | 9.9 | 78.7 | 10.8 | 0.2 | 0.2 |
| AQ | 0.5 | 13.7 | 72.0 | 12.7 | 1.1 | 1.1 |
| AS | 0.0 | 0.0 | 85.6 | 14.4 | 0.0 | 0.0 |
| ASE | 3.1 | 96.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| ASM | 9.1 | 90.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| AT | 1.3 | 15.1 | 68.5 | 14.8 | 0.3 | 0.3 |
| AV | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| AW | 0.6 | 3.3 | 70.6 | 25.2 | 0.3 | 0.3 |
| AX | 0.5 | 11.5 | 60.6 | 27.1 | 0.5 | 0.5 |
| AZ | 2.0 | 21.1 | 69.8 | 7.1 | 0.0 | 0.0 |
| BM | 2.3 | 17.3 | 62.5 | 17.3 | 0.5 | 0.5 |
| BT | 2.2 | 13.6 | 54.0 | 29.9 | 0.2 | 0.2 |
| BU | 0.4 | 10.6 | 71.2 | 16.8 | 1.1 | 1.1 |
| CE | 1.5 | 26.3 | 62.4 | 9.8 | 0.0 | 0.0 |
| CM | 0.8 | 28.8 | 62.1 | 8.3 | 0.0 | 0.0 |
| CTA | 0.0 | 8.2 | 63.9 | 27.2 | 0.7 | 0.7 |

* From Equation 2.1

TABLE C-6 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|-----|------|------|------|-------|-------|
| CTI | 0.9 | 7.8 | 72.2 | 19.1 | 0.0 | 0.0 |
| CTM | 3.0 | 9.6 | 71.1 | 16.3 | 0.0 | 0.0 |
| CTO | 2.6 | 8.7 | 70.9 | 17.9 | 0.0 | 0.0 |
| CTR | 0.5 | 9.6 | 73.6 | 16.2 | 0.0 | 0.0 |
| CTT | 0.6 | 5.2 | 75.0 | 19.2 | 0.0 | 0.0 |
| CU | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| DK | 1.0 | 12.9 | 76.7 | 8.6 | 1.0 | 1.0 |
| DM | 0.0 | 18.0 | 70.0 | 12.0 | 0.0 | 0.0 |
| DP | 0.7 | 9.3 | 66.4 | 22.4 | 0.0 | 0.0 |
| DS | 1.9 | 9.3 | 68.8 | 19.5 | 0.5 | 0.5 |
| DT | 1.6 | 19.0 | 63.2 | 15.8 | 0.4 | 0.4 |
| EA | 0.0 | 2.6 | 76.3 | 21.1 | 0.0 | 0.0 |
| EM | 1.8 | 7.3 | 52.0 | 37.2 | 1.7 | 1.7 |
| EN | 1.5 | 10.8 | 70.1 | 17.2 | 0.4 | 0.4 |
| EO | 3.9 | 36.2 | 54.3 | 5.5 | 0.0 | 0.0 |
| EQ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ET | 0.7 | 4.9 | 65.9 | 27.8 | 0.7 | 0.7 |
| EW | 0.0 | 11.7 | 49.7 | 38.6 | 0.0 | 0.0 |
| FT | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 100.0 |
| FTB | 0.0 | 1.3 | 38.5 | 60.3 | 0.0 | 0.0 |
| FTG | 0.7 | 5.8 | 40.1 | 53.3 | 0.0 | 0.0 |
| FTM | 1.0 | 9.9 | 49.2 | 39.8 | 0.0 | 0.0 |
| GM | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 100.0 |
| GMG | 1.2 | 4.2 | 77.4 | 17.3 | 0.0 | 0.0 |
| GMM | 1.5 | 9.6 | 52.9 | 36.0 | 0.0 | 0.0 |
| GMT | 0.5 | 4.9 | 82.2 | 12.4 | 0.0 | 0.0 |
| GS | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 100.0 |
| GSE | 0.0 | 3.4 | 56.3 | 40.2 | 0.0 | 0.0 |
| GSM | 3.6 | 5.5 | 56.4 | 34.5 | 0.0 | 0.0 |
| HM | 1.3 | 11.6 | 64.3 | 22.5 | 0.3 | 0.3 |
| HT | 0.8 | 8.9 | 59.7 | 29.9 | 0.5 | 0.5 |
| IC | 1.1 | 8.2 | 54.0 | 36.2 | 0.4 | 0.4 |
| IM | 1.3 | 6.4 | 70.5 | 21.8 | 0.0 | 0.0 |

TABLE C-6 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|-----|------|------|------|-----|-----|
| IS | 0.0 | 10.3 | 77.2 | 12.5 | 0.0 | 0.0 |
| JO | 0.0 | 12.0 | 64.0 | 24.0 | 0.0 | 0.0 |
| LI | 1.8 | 23.2 | 58.9 | 16.1 | 0.0 | 0.0 |
| LN | 0.0 | 5.1 | 65.8 | 29.1 | 0.0 | 0.0 |
| MA | 0.0 | 7.6 | 79.9 | 12.2 | 0.3 | 0.3 |
| ML | 0.0 | 12.0 | 64.0 | 24.0 | 0.0 | 0.0 |
| MM | 1.4 | 6.7 | 51.5 | 38.6 | 1.8 | 1.8 |
| MN | 0.0 | 17.0 | 67.0 | 16.0 | 0.0 | 0.0 |
| MR | 0.7 | 12.3 | 67.9 | 18.7 | 0.4 | 0.4 |
| MS | 5.5 | 48.6 | 41.3 | 4.5 | 0.1 | 0.1 |
| MT | 0.4 | 4.3 | 70.5 | 24.8 | 0.0 | 0.0 |
| MU | 3.6 | 28.5 | 54.7 | 10.2 | 2.2 | 2.2 |
| NC | 0.0 | 0.3 | 69.6 | 28.6 | 1.0 | 1.0 |
| OM | 0.0 | 4.8 | 76.2 | 19.0 | 0.0 | 0.0 |
| OS | 1.7 | 11.1 | 60.1 | 25.6 | 1.5 | 1.5 |
| OT | 0.0 | 5.8 | 78.0 | 16.2 | 0.0 | 0.0 |
| PC | 5.3 | 28.2 | 61.1 | 5.3 | 0.0 | 0.0 |
| PH | 0.6 | 8.0 | 77.9 | 13.5 | 0.0 | 0.0 |
| PI | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| PM | 0.0 | 9.1 | 68.2 | 22.7 | 0.0 | 0.0 |
| PN | 1.6 | 6.9 | 52.5 | 38.2 | 0.8 | 0.8 |
| PR | 2.2 | 20.9 | 68.0 | 8.4 | 0.0 | 0.0 |
| QM | 2.2 | 12.0 | 48.1 | 37.3 | 0.5 | 0.5 |
| RM | 1.1 | 11.5 | 73.2 | 14.0 | 0.2 | 0.2 |
| RP | 0.0 | 14.7 | 63.2 | 22.1 | 0.0 | 0.0 |
| SH | 4.5 | 30.5 | 53.5 | 11.0 | 0.5 | 0.5 |
| SK | 1.6 | 16.7 | 57.4 | 24.1 | 0.2 | 0.2 |
| SM | 2.0 | 11.2 | 68.8 | 18.0 | 0.0 | 0.0 |
| ST | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| STG | 1.3 | 3.5 | 57.5 | 37.7 | 0.0 | 0.0 |
| STS | 1.5 | 3.1 | 48.7 | 43.6 | 4.1 | 4.1 |
| SW | 1.1 | 9.1 | 63.6 | 25.0 | 1.1 | 1.1 |
| TD | 0.9 | 8.3 | 79.8 | 10.4 | 0.6 | 0.6 |

TABLE C-6 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|-----|------|------|------|-----|-----|
| TM | 1.9 | 4.8 | 78.8 | 14.5 | 0.0 | 0.0 |
| UT | 0.0 | 31.0 | 58.5 | 9.9 | 0.0 | 0.0 |
| YM | 1.0 | 11.1 | 64.4 | 22.8 | 0.6 | 0.6 |

TABLE C-7

FY-82 Shortages of Current Manpower Inventories From Billets
Authorized by SRB Zone*

| RATING | % Shortages | | |
|--------|-------------|--------|--------|
| | ZONE A | ZONE B | ZONE C |
| AB | 0 | 0 | 0 |
| ABE | 38 | 63 | 66 |
| ABF | 38 | 63 | 61 |
| ABH | 28 | 63 | 65 |
| AC | 38 | 67 | 68 |
| AD | 21 | 72 | 63 |
| AE | 30 | 71 | 54 |
| AF | 0 | 0 | 0 |
| AG | 14 | 69 | 92 |
| AK | 39 | 69 | 68 |
| AM | 0 | 0 | 0 |
| AME | 27 | 71 | 64 |
| AMH | 32 | 64 | 51 |
| AMS | 23 | 70 | 67 |
| AO | 34 | 69 | 65 |
| AQ | 23 | 71 | 62 |
| AS | 0 | 93 | 66 |
| ASE | 41 | 70 | 0 |
| ASM | 44 | 71 | 0 |
| AT | 33 | 65 | 67 |
| AV | 0 | 0 | 0 |
| AW | 32 | 33 | 17 |
| AX | 49 | 75 | 68 |
| AZ | 50 | 77 | 70 |
| BM | 45 | 63 | 66 |
| BT | 33 | 60 | 72 |
| BU | 22 | 76 | 65 |
| CE | 37 | 80 | 74 |
| CM | 27 | 80 | 75 |
| CTA | 39 | 58 | 59 |

*From Equation 2.2

TABLE C-7 (CONT.)

| RATING | ZONE A | ZONE B | ZONE C |
|--------|--------|--------|--------|
| CTI | 36 | 66 | 75 |
| CTM | 43 | 60 | 80 |
| CTO | 39 | 62 | 65 |
| CTR | 45 | 66 | 69 |
| CTT | 35 | 68 | 77 |
| CU | 0 | 0 | 0 |
| DK | 32 | 71 | 78 |
| DM | 42 | 69 | 67 |
| DP | 10 | 67 | 73 |
| DS | 21 | 64 | 80 |
| DT | 27 | 62 | 64 |
| EA | 25 | 84 | 64 |
| EM | 29 | 68 | 77 |
| EN | 28 | 72 | 76 |
| EO | 27 | 78 | 85 |
| EQ | 0 | 0 | 0 |
| ET | 27 | 71 | 79 |
| EW | 20 | 78 | 84 |
| FT | 0 | 0 | 0 |
| FTB | 7 | 59 | 78 |
| FTG | 30 | 79 | 83 |
| FTM | 47 | 69 | 88 |
| GM | 0 | 0 | 0 |
| GMG | 51 | 73 | 68 |
| GMM | 44 | 65 | 79 |
| GMT | 35 | 69 | 75 |
| GS | 0 | 0 | 0 |
| GSE | 49 | 57 | 72 |
| GSM | 35 | 70 | 75 |
| HM | 33 | 64 | 62 |
| HT | 39 | 73 | 72 |
| IC | 39 | 75 | 74 |
| IM | 58 | 80 | 60 |

TABLE C-7 (CONT.)

| RATING | ZONE A | ZONE B | ZONE C |
|--------|--------|--------|--------|
| IS | 25 | 75 | 67 |
| JO | 32 | 66 | 67 |
| LI | 20 | 68 | 65 |
| LN | 53 | 70 | 72 |
| MA | -3600 | 72 | 72 |
| ML | 60 | 75 | 70 |
| MM | 27 | 69 | 75 |
| MN | 52 | 56 | 48 |
| MR | 55 | 73 | 69 |
| MS | 56 | 79 | 84 |
| MT | 23 | 56 | 60 |
| MU | 72 | 73 | 68 |
| NC | -200 | 83 | 71 |
| OM | 60 | 75 | 70 |
| OS | 44 | 73 | 75 |
| OT | 33 | 72 | 70 |
| PC | 49 | 70 | 67 |
| PH | 10 | 76 | 70 |
| PI | 0 | 0 | 0 |
| PM | 39 | 88 | 71 |
| PN | 16 | 60 | 72 |
| PR | 38 | 68 | 64 |
| QM | 42 | 73 | 77 |
| RM | 45 | 72 | 67 |
| RP | 39 | 76 | 60 |
| SH | 51 | 68 | 64 |
| SK | 48 | 62 | 74 |
| SM | 52 | 68 | 74 |
| ST | 0 | 0 | 0 |
| STG | 27 | 80 | 84 |
| STS | 6 | 65 | 81 |
| SW | 9 | 79 | 67 |
| TD | 37 | 60 | 52 |

TABLE C-7 (CONT.)

| RATING | ZONE A | ZONE B | ZONE C |
|--------|--------|--------|--------|
| TM | 33 | 64 | 69 |
| UT | 40 | 75 | 68 |
| YM | 30 | 65 | 65 |

TABLE C-8

Objective Force Model (OFM) Projected Growth of Billets
Authorized from FY-82 to FY-86*

| <u>RATING</u> | <u>% GROWTH</u> | <u>RATING</u> | <u>% GROWTH</u> |
|---------------|-----------------|---------------|-----------------|
| AB | - 3 | CTI | 5 |
| ABE | 6 | CTM | 11 |
| ABF | 5 | CTO | 7 |
| ABH | 7 | CTR | 15 |
| AC | 6 | CTT | 26 |
| AD | 16 | CU | - 2 |
| AE | 16 | DK | 10 |
| AF | 7 | DM | - 1 |
| AG | 3 | DP | 17 |
| AK | 8 | DS | 17 |
| AM | 1 | DT | 7 |
| AME | 19 | EA | 5 |
| AMH | 19 | EM | 10 |
| AMS | 11 | EN | 11 |
| AO | 9 | EO | 15 |
| AQ | 14 | EQ | 3 |
| AS | 14 | ET | 10 |
| ASE | 27 | EW | 9 |
| ASM | -12 | FT | 10 |
| AT | 14 | FTB | 14 |
| AV | 8 | FTG | 19 |
| AW | 53 | FTM | 18 |
| AX | 14 | GM | 15 |
| AZ | 5 | GMG | 10 |
| BM | 10 | G M | 18 |
| BT | 0 | GMT | - 7 |
| BU | 18 | GS | 5 |
| CE | 12 | GSE | 40 |
| CM | 18 | GSM | 38 |
| CTA | 10 | HM | 16 |

* From Equation 2.3

TABLE C-8 (CONT.)

| <u>RATING</u> | <u>% GROWTH</u> | <u>RATING</u> | <u>% GROWTH</u> |
|---------------|-----------------|---------------|-----------------|
| HT | 14 | PH | 6 |
| IC | 8 | PI | 71 |
| IM | 15 | PM | 12 |
| IS | 19 | PN | 6 |
| JO | 8 | PR | 14 |
| LI | 12 | QM | 13 |
| LN | 8 | RM | 9 |
| MA | 23 | RP | 56 |
| MI | 16 | SH | 2 |
| MM | 6 | SK | 7 |
| MN | 6 | SM | 8 |
| MR | 15 | ST | 33 |
| MS | 6 | STG | 9 |
| MT | 9 | STS | 15 |
| MU | - 1 | SW | 18 |
| NC | 15 | TD | 16 |
| OM | 21 | TM | 9 |
| OS | 12 | UT | 18 |
| OT | 16 | YM | 7 |
| PC | 7 | | |

APPENDIX D: MANPOWER COSTS

TABLE D-1

FY-82 Enlisted Billet Cost Estimates Excluding SRB Payments*

| RATING | Paygrades | | | | | |
|--------|-----------|-------|-------|-------|-------|-------|
| | E4 | E5 | E6 | E7 | E8 | E9 |
| AB | 0 | 0 | 0 | 0 | 36400 | 41500 |
| ABE | 19200 | 23900 | 27900 | 31600 | 0 | 0 |
| ABF | 19200 | 23300 | 27100 | 30700 | 0 | 0 |
| ABH | 19100 | 22700 | 26500 | 31400 | 0 | 0 |
| AC | 21100 | 25000 | 28400 | 31800 | 35200 | 40400 |
| AD | 19700 | 23600 | 27800 | 31700 | 35500 | 0 |
| AE | 20300 | 24100 | 28200 | 31800 | 35600 | 0 |
| AF | 0 | 0 | 0 | 0 | 0 | 40400 |
| AG | 19000 | 22500 | 26600 | 30800 | 35000 | 40400 |
| AK | 18500 | 22200 | 26700 | 30900 | 34900 | 39700 |
| AM | 0 | 0 | 0 | 0 | 35100 | 0 |
| AME | 20500 | 24100 | 27900 | 31100 | 0 | 0 |
| AMH | 19300 | 23500 | 27300 | 31000 | 0 | 0 |
| AMS | 19600 | 23400 | 27100 | 31100 | 0 | 0 |
| AO | 19200 | 23100 | 27300 | 31600 | 36100 | 41000 |
| AQ | 24700 | 28400 | 31300 | 33500 | 35500 | 0 |
| AS | 0 | 0 | 27200 | 30600 | 33800 | 38800 |
| ASE | 20400 | 24300 | 0 | 0 | 0 | 0 |
| ASM | 23000 | 26500 | 0 | 0 | 0 | 0 |
| AT | 22300 | 26400 | 29400 | 32200 | 35800 | 0 |
| AV | 0 | 0 | 0 | 0 | 0 | 40300 |
| AW | 20700 | 25200 | 29100 | 32700 | 36700 | 41800 |
| AX | 24700 | 26900 | 30000 | 32400 | 35600 | 0 |
| AZ | 18300 | 21500 | 26800 | 30700 | 35600 | 39100 |
| BM | 18700 | 23000 | 27100 | 31600 | 35900 | 41600 |
| BT | 19900 | 24000 | 28100 | 32200 | 35900 | 41100 |
| BU | 18900 | 22800 | 27500 | 31200 | 34900 | 0 |
| CE | 20300 | 24100 | 28000 | 31400 | 35400 | 0 |
| CM | 20100 | 24100 | 28500 | 32000 | 36300 | 0 |
| CTA | 21000 | 24300 | 27100 | 30500 | 33500 | 40300 |

* Billet costs are rounded to nearest hundreds of dollars

TABLE D-1 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|-------|-------|-------|-------|-------|-------|
| CTI | 20100 | 23900 | 27500 | 30400 | 35300 | 38700 |
| CTM | 32100 | 33400 | 33700 | 33500 | 36500 | 39400 |
| CTO | 21400 | 25100 | 28000 | 31400 | 34300 | 40100 |
| CTR | 22900 | 25900 | 28100 | 31100 | 35000 | 40100 |
| CTT | 29700 | 33200 | 32600 | 33400 | 35800 | 40300 |
| CU | 0 | 0 | 0 | 0 | 0 | 40100 |
| DK | 18800 | 22800 | 27500 | 31300 | 34600 | 40000 |
| DM | 18200 | 22000 | 26000 | 31200 | 32700 | 41100 |
| DP | 19100 | 22200 | 26700 | 31200 | 35400 | 39800 |
| DS | 23200 | 28300 | 36100 | 38800 | 40100 | 39800 |
| DT | 18700 | 21900 | 25700 | 30100 | 34600 | 39500 |
| EA | 18400 | 22500 | 27100 | 32100 | 33700 | 0 |
| EM | 21200 | 25400 | 29700 | 33700 | 37200 | 42100 |
| EN | 18800 | 22800 | 27500 | 32100 | 36400 | 41600 |
| EO | 19300 | 23900 | 28000 | 31900 | 35700 | 0 |
| EQ | 0 | 0 | 0 | 0 | 0 | 40000 |
| ET | 23000 | 26200 | 30000 | 33400 | 36500 | 41500 |
| EW | 26800 | 29500 | 32600 | 35100 | 38100 | 42300 |
| FT | 0 | 0 | 0 | 0 | 38300 | 42300 |
| FTB | 23200 | 26500 | 29500 | 33300 | 0 | 0 |
| FTG | 24900 | 27100 | 31200 | 34100 | 0 | 0 |
| FTM | 26100 | 28700 | 32700 | 34500 | 0 | 0 |
| GM | 0 | 0 | 0 | 0 | 38700 | 42700 |
| GMG | 19100 | 23900 | 28500 | 33000 | 0 | 0 |
| GMM | 20400 | 25700 | 30200 | 33700 | 0 | 0 |
| GMT | 20100 | 25100 | 28600 | 32000 | 35700 | 40800 |
| GS | 0 | 0 | 0 | 0 | 34000 | 39200 |
| GSE | 21100 | 26100 | 31500 | 34100 | 0 | 0 |
| GSM | 21000 | 26500 | 30900 | 33300 | 0 | 0 |
| HM | 18600 | 21900 | 25600 | 30100 | 34800 | 40500 |
| HT | 18800 | 23100 | 27200 | 31200 | 35400 | 42200 |
| IC | 19500 | 23700 | 28800 | 33700 | 38300 | 0 |
| IM | 20200 | 24300 | 28500 | 31800 | 34300 | 0 |

TABLE D-1 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|-------|-------|-------|-------|-------|-------|
| IS | 20800 | 24800 | 28400 | 32200 | 35400 | 39500 |
| JO | 18400 | 21200 | 25200 | 29500 | 34900 | 39000 |
| LI | 18000 | 21800 | 26300 | 30900 | 33000 | 38200 |
| LN | 0 | 23200 | 25200 | 29900 | 32900 | 38300 |
| MA | 0 | 23300 | 27600 | 31400 | 35400 | 39900 |
| ML | 20000 | 21500 | 26600 | 30200 | 34500 | 41100 |
| MM | 19300 | 23900 | 28400 | 33500 | 37200 | 42300 |
| MN | 24500 | 28200 | 30200 | 32100 | 33900 | 40600 |
| MR | 18900 | 23600 | 27900 | 31600 | 34800 | 40600 |
| MS | 19700 | 24100 | 28900 | 32700 | 36400 | 40900 |
| MT | 21200 | 26200 | 29900 | 33900 | 0 | 0 |
| MU | 24100 | 25700 | 28100 | 31400 | 34700 | 39500 |
| NC | 0 | 22400 | 27800 | 31900 | 36500 | 41100 |
| OM | 21000 | 24700 | 28300 | 32000 | 34700 | 0 |
| OS | 20800 | 25700 | 29500 | 32800 | 36300 | 41400 |
| OT | 22900 | 26500 | 29500 | 32100 | 35300 | 38900 |
| PC | 18900 | 22700 | 27100 | 31200 | 33500 | 40500 |
| PH | 20900 | 22600 | 25000 | 29700 | 34700 | 38400 |
| PI | 0 | 0 | 0 | 0 | 0 | 39400 |
| PM | 19700 | 22200 | 27000 | 30500 | 0 | 0 |
| PN | 18500 | 22200 | 25800 | 30700 | 35200 | 40400 |
| PR | 20400 | 23600 | 27400 | 31400 | 35900 | 41000 |
| QM | 18500 | 22900 | 27500 | 32600 | 36900 | 42700 |
| RM | 20800 | 24400 | 28300 | 32800 | 36700 | 41300 |
| RP | 18200 | 21900 | 25400 | 29300 | 33100 | 37900 |
| SH | 19300 | 23800 | 27900 | 31200 | 35400 | 40500 |
| SK | 18500 | 22600 | 26700 | 31300 | 35900 | 41100 |
| SM | 19000 | 23200 | 27600 | 32700 | 36400 | 41400 |
| ST | 0 | 0 | 0 | 0 | 0 | 40600 |
| STG | 20400 | 24600 | 29200 | 32900 | 36400 | 0 |
| STS | 25000 | 29400 | 33900 | 36700 | 39500 | 0 |
| SW | 19200 | 22900 | 28000 | 31900 | 34800 | 0 |
| TD | 22700 | 26200 | 29000 | 31400 | 34900 | 40100 |

TABLE D-1 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 |
|--------|-------|-------|-------|-------|-------|-------|
| TM | 21300 | 26000 | 29200 | 33100 | 36900 | 42200 |
| UT | 18900 | 23600 | 27900 | 31500 | 35200 | 39900 |
| YM | 18800 | 22200 | 26100 | 31000 | 35500 | 41100 |

Source: Enlisted Billet Cost Model (BCM) by
Frankel (1983)

TABLE D-2

FY-82 Zone A Distribution of Enlisted Billet Costs Excluding
SRB Payments*

| RATING | Paygrades | | | | | | TOTAL |
|--------|-----------|-------|-------|----|-------|----|-------|
| | E4 | E5 | E6 | E7 | E8 | E9 | |
| AB | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABE | 12250 | 8604 | 0 | 32 | 0 | 0 | 20886 |
| ABF | 15494 | 4334 | 190 | 0 | 0 | 0 | 20018 |
| ABH | 15337 | 4449 | 53 | 0 | 0 | 0 | 19839 |
| AC | 8693 | 14450 | 256 | 32 | 0 | 0 | 23431 |
| AD | 13297 | 7599 | 83 | 0 | 0 | 0 | 20979 |
| AE | 12281 | 9447 | 85 | 0 | 0 | 0 | 21813 |
| AF | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AG | 10507 | 10035 | 27 | 0 | 0 | 0 | 20569 |
| AK | 12043 | 7659 | 107 | 0 | 0 | 0 | 19809 |
| AM | 0 | 0 | 0 | 0 | 35100 | 0 | 35100 |
| AME | 12894 | 8869 | 84 | 0 | 0 | 0 | 21847 |
| AMH | 14417 | 5898 | 55 | 0 | 0 | 0 | 20370 |
| AMS | 14622 | 5827 | 135 | 0 | 0 | 0 | 20584 |
| AO | 11501 | 9101 | 218 | 0 | 0 | 0 | 20820 |
| AQ | 10349 | 16160 | 344 | 33 | 0 | 0 | 26886 |
| AS | 0 | 0 | 27200 | 0 | 0 | 0 | 27200 |
| ASE | 12811 | 9040 | 0 | 0 | 0 | 0 | 21851 |
| ASM | 19757 | 3736 | 0 | 0 | 0 | 0 | 23493 |
| AT | 11172 | 12857 | 353 | 32 | 0 | 0 | 24414 |
| AV | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AW | 9377 | 13457 | 349 | 0 | 37 | 0 | 23220 |
| AX | 12350 | 12751 | 780 | 0 | 0 | 0 | 25881 |
| AZ | 11895 | 7482 | 27 | 31 | 0 | 0 | 19435 |
| BM | 13726 | 5934 | 190 | 32 | 0 | 0 | 19882 |
| BT | 12298 | 9144 | 28 | 0 | 0 | 0 | 21470 |
| BU | 11113 | 9280 | 110 | 31 | 0 | 0 | 20534 |
| CE | 11043 | 10941 | 56 | 0 | 0 | 0 | 22040 |
| CM | 13688 | 7616 | 57 | 64 | 0 | 0 | 21425 |
| CTA | 11550 | 10716 | 163 | 91 | 0 | 0 | 22520 |

*From Equation 3.1

TABLE D-2 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|-------|-------|------|-----|----|----|-------|
| CTI | 10532 | 11233 | 165 | 0 | 0 | 0 | 21930 |
| CTM | 18201 | 14061 | 404 | 0 | 0 | 0 | 32666 |
| CTO | 13953 | 8685 | 56 | 0 | 0 | 0 | 22694 |
| CTR | 14358 | 9661 | 0 | 0 | 0 | 0 | 24019 |
| CTT | 16068 | 15040 | 163 | 67 | 0 | 0 | 31338 |
| CU | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DK | 12276 | 7912 | 0 | 0 | 0 | 0 | 20188 |
| DM | 12176 | 7106 | 208 | 0 | 0 | 0 | 19490 |
| DP | 11212 | 9013 | 187 | 0 | 0 | 0 | 20412 |
| DS | 10301 | 15084 | 830 | 0 | 0 | 0 | 26215 |
| DT | 14044 | 5409 | 0 | 60 | 0 | 0 | 19513 |
| EA | 10028 | 10237 | 0 | 0 | 0 | 0 | 20265 |
| EM | 11130 | 11481 | 653 | 0 | 0 | 0 | 23264 |
| EN | 12652 | 7364 | 82 | 32 | 0 | 0 | 20130 |
| EO | 13182 | 7528 | 28 | 0 | 0 | 0 | 20738 |
| EQ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ET | 8970 | 15458 | 600 | 0 | 0 | 0 | 25028 |
| EW | 11872 | 16195 | 261 | 0 | 0 | 0 | 28328 |
| FT | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FTB | 8468 | 16509 | 383 | 0 | 0 | 0 | 25360 |
| FTG | 9462 | 15799 | 1154 | 34 | 0 | 0 | 26449 |
| FTM | 11119 | 16158 | 360 | 0 | 0 | 0 | 27637 |
| GM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GMG | 11746 | 9082 | 142 | 33 | 0 | 0 | 21003 |
| GMM | 10832 | 11899 | 181 | 0 | 0 | 0 | 22912 |
| GMT | 11356 | 10768 | 172 | 0 | 0 | 0 | 22296 |
| GS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GSE | 7026 | 16051 | 1606 | 0 | 0 | 0 | 24683 |
| GSM | 8610 | 14946 | 772 | 0 | 0 | 0 | 24328 |
| HM | 13280 | 6088 | 205 | 30 | 0 | 0 | 19603 |
| HT | 11581 | 8639 | 245 | 31 | 0 | 0 | 20496 |
| IC | 8794 | 12134 | 1037 | 34 | 0 | 0 | 21999 |
| IM | 11130 | 10206 | 627 | 223 | 0 | 0 | 22186 |

TABLE D-2 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|-------|-------|-------|------|----|----|-------|
| IS | 8195 | 14260 | 653 | 161 | 71 | 0 | 23340 |
| JO | 10065 | 9413 | 227 | 0 | 0 | 0 | 19705 |
| LI | 11880 | 7303 | 131 | 0 | 0 | 0 | 19314 |
| LN | 0 | 22179 | 1109 | 0 | 0 | 0 | 23288 |
| MA | 0 | 17475 | 5741 | 1319 | 0 | 0 | 24535 |
| ML | 12000 | 8600 | 0 | 0 | 0 | 0 | 20600 |
| MM | 8974 | 11568 | 1420 | 0 | 0 | 0 | 21962 |
| MN | 16831 | 8798 | 0 | 0 | 0 | 0 | 25629 |
| MR | 12550 | 7812 | 112 | 0 | 0 | 0 | 20474 |
| MS | 15583 | 5013 | 29 | 0 | 0 | 0 | 20625 |
| MT | 8565 | 15379 | 299 | 0 | 0 | 0 | 24243 |
| MU | 13062 | 6605 | 5451 | 220 | 0 | 0 | 25338 |
| NC | 0 | 14941 | 9257 | 0 | 0 | 0 | 24198 |
| OM | 13818 | 8447 | 0 | 0 | 0 | 0 | 22265 |
| OS | 12792 | 9766 | 118 | 33 | 0 | 0 | 22709 |
| OT | 14358 | 9725 | 118 | 64 | 0 | 0 | 24265 |
| PC | 16027 | 3405 | 81 | 0 | 0 | 0 | 19513 |
| PH | 11725 | 9763 | 125 | 30 | 0 | 0 | 21643 |
| PI | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM | 12155 | 8503 | 0 | 0 | 0 | 0 | 20658 |
| PN | 9675 | 10323 | 310 | 0 | 0 | 0 | 20308 |
| PR | 12607 | 8921 | 55 | 63 | 0 | 0 | 21646 |
| QM | 11192 | 8839 | 220 | 65 | 0 | 0 | 20316 |
| RM | 12064 | 9980 | 283 | 0 | 0 | 0 | 22327 |
| RP | 9482 | 10205 | 356 | 0 | 0 | 0 | 20043 |
| SH | 14764 | 5593 | 28 | 0 | 0 | 0 | 20385 |
| SK | 10970 | 9040 | 133 | 31 | 0 | 0 | 20174 |
| SM | 11628 | 8886 | 138 | 0 | 0 | 0 | 20652 |
| ST | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| STG | 7446 | 14883 | 847 | 33 | 0 | 0 | 23209 |
| STS | 9050 | 9555 | 10611 | 0 | 0 | 0 | 29216 |
| SW | 13152 | 7145 | 84 | 0 | 0 | 0 | 20381 |
| TD | 12417 | 11790 | 87 | 0 | 0 | 0 | 24294 |

TABLE D-2 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|-------|-------|-----|----|----|----|-------|
| TM | 12056 | 11102 | 175 | 0 | 0 | 0 | 23333 |
| UT | 12228 | 8284 | 56 | 0 | 0 | 0 | 20568 |
| YM | 11299 | 8458 | 470 | 0 | 0 | 0 | 20227 |

TABLE D-3

FY-82 Zone B Distribution of Enlisted Billet
Costs Excluding SRB Payments*

| RATING | Paygrades | | | | | | TOTAL |
|--------|-----------|-------|-------|-----|----|----|-------|
| | E4 | E5 | E6 | E7 | E8 | E9 | |
| AB | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABE | 1517 | 13456 | 9904 | 95 | 0 | 0 | 24972 |
| ABF | 4973 | 10625 | 7642 | 92 | 0 | 0 | 23332 |
| ABH | 4794 | 10397 | 7738 | 0 | 0 | 0 | 22929 |
| AC | 1224 | 10700 | 14456 | 159 | 0 | 0 | 26539 |
| AD | 2187 | 13948 | 8229 | 63 | 35 | 0 | 24462 |
| AE | 365 | 13568 | 11788 | 32 | 0 | 0 | 25753 |
| AF | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AG | 855 | 10822 | 12582 | 0 | 0 | 0 | 24259 |
| AK | 2460 | 15584 | 4352 | 31 | 0 | 0 | 22427 |
| AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AME | 1537 | 13592 | 10072 | 0 | 0 | 0 | 25201 |
| AMH | 2451 | 15251 | 6115 | 0 | 0 | 0 | 23817 |
| AMS | 2862 | 11934 | 9268 | 62 | 0 | 0 | 24126 |
| AO | 1498 | 11319 | 11794 | 0 | 0 | 0 | 24611 |
| AQ | 1581 | 14399 | 13302 | 167 | 0 | 0 | 29449 |
| AS | 0 | 0 | 26438 | 857 | 0 | 0 | 27295 |
| ASE | 3427 | 20218 | 0 | 0 | 0 | 0 | 23645 |
| ASM | 5888 | 19716 | 0 | 0 | 0 | 0 | 25604 |
| AT | 1472 | 13490 | 12289 | 161 | 0 | 0 | 27412 |
| AV | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AW | 973 | 9198 | 17053 | 33 | 0 | 0 | 27257 |
| AX | 1235 | 12186 | 14490 | 421 | 0 | 0 | 28332 |
| AZ | 3202 | 13459 | 5226 | 123 | 0 | 0 | 22010 |
| BM | 2581 | 12903 | 8076 | 63 | 36 | 0 | 23659 |
| BT | 1851 | 12720 | 10481 | 97 | 0 | 0 | 25149 |
| BU | 1247 | 14957 | 7150 | 530 | 0 | 0 | 23884 |
| CE | 1421 | 13737 | 9464 | 659 | 0 | 0 | 25281 |
| CM | 3115 | 17424 | 3277 | 224 | 0 | 0 | 24040 |
| CTA | 966 | 15771 | 8265 | 0 | 0 | 0 | 25002 |

*From Equation 3.1

TABLE D-3 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|------|-------|-------|------|----|-----|-------|
| CTI | 1648 | 9679 | 14135 | 0 | 0 | 0 | 25462 |
| CTM | 2921 | 17702 | 12435 | 301 | 0 | 0 | 33359 |
| CTO | 3167 | 14232 | 7980 | 0 | 0 | 0 | 25379 |
| CTR | 1832 | 17301 | 6969 | 0 | 0 | 120 | 26222 |
| CTT | 2198 | 15471 | 14800 | 200 | 0 | 0 | 32669 |
| CU | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DK | 996 | 12517 | 10972 | 0 | 0 | 0 | 24485 |
| DM | 1947 | 13090 | 7124 | 749 | 0 | 0 | 22910 |
| DP | 1853 | 10723 | 10920 | 281 | 71 | 0 | 23848 |
| DS | 789 | 10726 | 20794 | 427 | 0 | 0 | 32736 |
| DT | 3385 | 13534 | 5166 | 0 | 0 | 0 | 22085 |
| EA | 662 | 12060 | 11626 | 0 | 0 | 0 | 24348 |
| EM | 1611 | 9779 | 15592 | 472 | 0 | 42 | 27496 |
| EN | 1485 | 11240 | 11660 | 64 | 73 | 0 | 24522 |
| EO | 1583 | 17519 | 5180 | 0 | 0 | 0 | 24282 |
| EQ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ET | 1127 | 8725 | 18300 | 267 | 0 | 0 | 28419 |
| EW | 2841 | 8496 | 18289 | 1579 | 0 | 0 | 31205 |
| FT | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FTB | 951 | 6837 | 20296 | 466 | 0 | 0 | 28550 |
| FTG | 1544 | 7561 | 19344 | 1330 | 0 | 0 | 29779 |
| FTM | 1305 | 10877 | 17854 | 897 | 0 | 0 | 30933 |
| GM | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GMG | 1585 | 11496 | 12369 | 99 | 0 | 0 | 25549 |
| GMM | 673 | 12670 | 14224 | 135 | 0 | 0 | 27702 |
| GMT | 1749 | 8459 | 16216 | 288 | 0 | 0 | 26712 |
| GS | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GSE | 717 | 10858 | 16285 | 1159 | 0 | 0 | 29019 |
| GSM | 1260 | 12057 | 14677 | 333 | 0 | 0 | 28327 |
| HM | 2437 | 12352 | 7706 | 90 | 0 | 40 | 22625 |
| HT | 1316 | 10141 | 13083 | 281 | 0 | 42 | 24863 |
| IC | 975 | 9622 | 15293 | 472 | 0 | 0 | 26362 |
| IM | 909 | 11421 | 13395 | 477 | 0 | 0 | 26202 |

TABLE D-3 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|------|-------|-------|------|-----|-----|-------|
| IS | 1872 | 11458 | 12752 | 0 | 0 | 0 | 26082 |
| JO | 1582 | 9243 | 10987 | 855 | 244 | 273 | 23184 |
| LI | 1908 | 12818 | 7732 | 371 | 0 | 0 | 22829 |
| LN | 0 | 9999 | 14339 | 0 | 0 | 0 | 24338 |
| MA | 0 | 12675 | 12144 | 377 | 142 | 0 | 25338 |
| ML | 800 | 6880 | 17024 | 0 | 0 | 0 | 24704 |
| MM | 3146 | 7815 | 13916 | 636 | 0 | 0 | 25513 |
| MN | 1176 | 18697 | 8698 | 0 | 0 | 0 | 28571 |
| MR | 1058 | 10030 | 14341 | 158 | 0 | 0 | 25587 |
| MS | 5417 | 16099 | 1589 | 33 | 0 | 0 | 23138 |
| MT | 424 | 14410 | 12857 | 0 | 0 | 0 | 27691 |
| MU | 4579 | 11462 | 8823 | 1287 | 278 | 0 | 26429 |
| NC | 0 | 1299 | 24019 | 2265 | 219 | 0 | 27802 |
| OM | 819 | 11140 | 14433 | 0 | 0 | 0 | 26392 |
| OS | 2080 | 12079 | 12537 | 164 | 0 | 0 | 26860 |
| OT | 916 | 12349 | 14573 | 0 | 0 | 0 | 27838 |
| PC | 5235 | 12144 | 4932 | 187 | 0 | 0 | 22498 |
| PH | 3177 | 11029 | 8800 | 238 | 0 | 0 | 23244 |
| PI | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM | 1793 | 14119 | 7371 | 0 | 0 | 0 | 23283 |
| PN | 832 | 8547 | 14345 | 368 | 70 | 0 | 24162 |
| PR | 1550 | 16284 | 6412 | 0 | 0 | 0 | 24246 |
| QM | 1609 | 9916 | 12705 | 554 | 74 | 0 | 24858 |
| RM | 1643 | 13835 | 9990 | 33 | 0 | 0 | 25501 |
| RP | 1966 | 10293 | 10719 | 0 | 0 | 0 | 22978 |
| SH | 2548 | 15208 | 6305 | 125 | 0 | 0 | 24186 |
| SK | 1128 | 11323 | 11481 | 250 | 0 | 0 | 24182 |
| SM | 2014 | 12134 | 10240 | 0 | 0 | 0 | 24388 |
| ST | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| STG | 1285 | 8659 | 15914 | 1316 | 0 | 0 | 27174 |
| STS | 1325 | 7526 | 21798 | 1725 | 0 | 0 | 32374 |
| SW | 2131 | 11015 | 11396 | 0 | 0 | 0 | 24542 |
| TD | 863 | 14069 | 12238 | 63 | 0 | 0 | 27233 |

TABLE D-3 (CONT.)

| <u>RATING</u> | <u>E4</u> | <u>E5</u> | <u>E6</u> | <u>E7</u> | <u>E8</u> | <u>E9</u> | <u>TOTAL</u> |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| TM | 1512 | 11518 | 14045 | 132 | 0 | 0 | 27207 |
| UT | 1342 | 17771 | 4436 | 567 | 0 | 0 | 24116 |
| YM | 1222 | 11522 | 10597 | 279 | 0 | 41 | 23661 |

TABLE D-4

FY-82 Zone C Distribution of Enlisted Billet
Costs Excluding SRB Payments*

| RATING | Paygrades | | | | | | TOTAL |
|--------|-----------|-------|-------|-------|-------|-----|-------|
| | E4 | E5 | E6 | E7 | E8 | E9 | |
| AB | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABE | 211 | 2964 | 15233 | 10080 | 0 | 0 | 28488 |
| ABF | 307 | 4310 | 11463 | 11543 | 0 | 0 | 27623 |
| ABH | 783 | 3223 | 18921 | 3266 | 0 | 0 | 26193 |
| AC | 63 | 1675 | 20874 | 6201 | 0 | 0 | 28813 |
| AD | 236 | 3587 | 18876 | 4660 | 319 | 0 | 27678 |
| AE | 142 | 2410 | 20558 | 4993 | 249 | 0 | 28352 |
| AF | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AG | 684 | 4500 | 7741 | 14568 | 0 | 0 | 27493 |
| AK | 573 | 5705 | 16127 | 3337 | 0 | 0 | 25742 |
| AM | 0 | 0 | 0 | 0 | 35100 | 0 | 35100 |
| AME | 287 | 2916 | 21427 | 2986 | 0 | 0 | 27616 |
| AMH | 309 | 4371 | 16817 | 5673 | 0 | 0 | 27170 |
| AMS | 470 | 3416 | 17778 | 5411 | 0 | 0 | 27075 |
| AO | 96 | 2287 | 21485 | 3413 | 72 | 82 | 27435 |
| AQ | 123 | 3891 | 22536 | 4254 | 390 | 0 | 31194 |
| AS | 0 | 0 | 23283 | 4406 | 0 | 0 | 27689 |
| ASE | 632 | 23547 | 0 | 0 | 0 | 0 | 24179 |
| ASM | 2093 | 24088 | 0 | 0 | 0 | 0 | 26181 |
| AT | 290 | 3986 | 20139 | 4766 | 107 | 0 | 29288 |
| AV | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AW | 124 | 832 | 20545 | 8240 | 110 | 125 | 29976 |
| AX | 123 | 3093 | 18180 | 8780 | 178 | 0 | 30354 |
| AZ | 366 | 4536 | 18706 | 2180 | 0 | 0 | 25788 |
| BM | 430 | 3979 | 16937 | 5467 | 179 | 208 | 27200 |
| BT | 438 | 3264 | 15174 | 9628 | 72 | 82 | 28658 |
| BU | 76 | 2417 | 19580 | 5242 | 384 | 0 | 27699 |
| CE | 304 | 6338 | 17472 | 3077 | 0 | 0 | 27191 |
| CM | 161 | 6941 | 17698 | 2656 | 0 | 0 | 27456 |
| CTA | 0 | 1993 | 17317 | 8296 | 234 | 282 | 28122 |

* From Equation 3.1

TABLE D-4 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|-----|------|-------|-------|-------|-------|-------|
| CTI | 181 | 1864 | 19855 | 5806 | 0 | 0 | 27706 |
| CTM | 963 | 3206 | 23961 | 5460 | 0 | 0 | 33590 |
| CTO | 556 | 2184 | 19852 | 5621 | 0 | 0 | 28213 |
| CTR | 114 | 2486 | 20682 | 5038 | 0 | 0 | 28320 |
| CTT | 178 | 1726 | 24450 | 6413 | 0 | 0 | 32767 |
| CU | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DK | 188 | 2941 | 21092 | 2692 | 346 | 400 | 27659 |
| DM | 0 | 3960 | 18200 | 3744 | 0 | 0 | 25904 |
| DP | 134 | 2331 | 17729 | 6989 | 0 | 0 | 27183 |
| DS | 441 | 2632 | 24837 | 7566 | 200 | 199 | 35875 |
| DT | 299 | 4161 | 16242 | 4756 | 138 | 158 | 25754 |
| EA | 0 | 585 | 20677 | 6773 | 0 | 0 | 28035 |
| EM | 382 | 1854 | 15444 | 12536 | 632 | 716 | 31564 |
| EN | 282 | 2462 | 19277 | 5521 | 146 | 166 | 27854 |
| EO | 753 | 8652 | 15204 | 1754 | 0 | 0 | 26363 |
| EQ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ET | 161 | 1284 | 19770 | 9285 | 255 | 290 | 31045 |
| EW | 0 | 3451 | 16202 | 13549 | 0 | 0 | 33202 |
| FT | 0 | 0 | 0 | 0 | 38300 | 42300 | 80600 |
| FTB | 0 | 344 | 11357 | 20080 | 0 | 0 | 31781 |
| FTG | 174 | 1572 | 12511 | 18175 | 0 | 0 | 32432 |
| FTM | 261 | 2841 | 16088 | 13731 | 0 | 0 | 32921 |
| GM | 0 | 0 | 0 | 0 | 38700 | 42700 | 81400 |
| GMG | 229 | 1004 | 22059 | 5709 | 0 | 0 | 29001 |
| GMM | 306 | 2467 | 15976 | 12132 | 0 | 0 | 30881 |
| GMT | 100 | 1230 | 23509 | 3968 | 0 | 0 | 28807 |
| GS | 0 | 0 | 0 | 0 | 34000 | 39200 | 73200 |
| GSE | 0 | 887 | 17734 | 13708 | 0 | 0 | 32329 |
| GSM | 756 | 1457 | 17428 | 11488 | 0 | 0 | 31129 |
| HM | 242 | 2540 | 16461 | 6772 | 104 | 121 | 26240 |
| HT | 150 | 2056 | 16238 | 9329 | 177 | 211 | 28161 |
| IC | 214 | 1943 | 15552 | 12199 | 153 | 0 | 30061 |
| IM | 263 | 1555 | 20092 | 6932 | 0 | 0 | 28842 |

Table D-4 (CONT.)

| RATING | E4 | E5 | E6 | E7 | E8 | E9 | TOTAL |
|--------|------|-------|-------|-------|------|-----|-------|
| IS | 0 | 2554 | 21925 | 4025 | 0 | 0 | 28504 |
| JO | 0 | 2544 | 16128 | 7080 | 0 | 0 | 25752 |
| LI | 324 | 5058 | 15491 | 4975 | 0 | 0 | 25848 |
| LN | 0 | 1183 | 16582 | 8701 | 0 | 0 | 26466 |
| MA | 0 | 1771 | 22052 | 3831 | 106 | 120 | 27880 |
| ML | 0 | 2580 | 17024 | 7248 | 0 | 0 | 26852 |
| MM | 270 | 1601 | 14626 | 12931 | 670 | 761 | 30859 |
| MN | 0 | 4794 | 20234 | 5136 | 0 | 0 | 30164 |
| MR | 132 | 2903 | 18944 | 5909 | 139 | 162 | 28189 |
| MS | 1083 | 11713 | 11936 | 1471 | 36 | 41 | 26280 |
| MT | 85 | 1127 | 21079 | 8407 | 0 | 0 | 30698 |
| MU | 868 | 7324 | 15371 | 3203 | 763 | 869 | 28398 |
| NC | 0 | 67 | 19349 | 9123 | 365 | 411 | 29315 |
| OM | 0 | 1186 | 21565 | 6080 | 0 | 0 | 28831 |
| OS | 354 | 2853 | 17729 | 8397 | 544 | 621 | 30498 |
| OT | 0 | 1537 | 23010 | 5200 | 0 | 0 | 29747 |
| PC | 1002 | 6401 | 16558 | 1654 | 0 | 0 | 25615 |
| PH | 125 | 1808 | 19475 | 4009 | 0 | 0 | 25417 |
| PI | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PM | 0 | 2020 | 18414 | 6923 | 0 | 0 | 27357 |
| PN | 296 | 1532 | 13545 | 11727 | 282 | 323 | 27705 |
| PR | 449 | 4932 | 18632 | 2638 | 0 | 0 | 26651 |
| QM | 407 | 2748 | 13227 | 12160 | 184 | 213 | 28939 |
| RM | 229 | 2806 | 20716 | 4592 | 73 | 83 | 28499 |
| RP | 0 | 3219 | 16053 | 6475 | 0 | 0 | 25747 |
| SH | 868 | 7259 | 14926 | 3432 | 177 | 202 | 26864 |
| SK | 296 | 3774 | 15326 | 7543 | 72 | 82 | 27093 |
| SM | 380 | 2598 | 18989 | 5886 | 0 | 0 | 27853 |
| ST | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| STG | 265 | 861 | 16790 | 12403 | 0 | 0 | 30319 |
| STS | 125 | 911 | 16509 | 16001 | 1619 | 0 | 35165 |
| SW | 211 | 2084 | 17808 | 7975 | 383 | 0 | 28461 |
| TD | 204 | 2175 | 23142 | 3266 | 209 | 241 | 29237 |

TABLE D-4 (CONT.)

| <u>RATING</u> | <u>E4</u> | <u>E5</u> | <u>E6</u> | <u>E7</u> | <u>E8</u> | <u>E9</u> | <u>TOTAL</u> |
|---------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| TM | 405 | 1248 | 23010 | 4799 | 0 | 0 | 29462 |
| UT | 0 | 7316 | 16321 | 3118 | 0 | 0 | 26755 |
| YM | 188 | 2464 | 16808 | 7068 | 213 | 247 | 26988 |

APPENDIX E: RETENTION SEVERITY COMPONENT DATA

TABLE E-1

FY-82 Retention Severity Index Components
For Reenlistment Zone A

| RATING | % SHORTAGE ^a | % GROWTH ^b | COST ^c | PRIORITY ^d | SIZE ^e |
|--------|----------------------------|--------------------------|-------------------|-----------------------|-------------------|
| AB | 0 | - 3 | 0 | 75 | 0 |
| ABE | 38 | 6 | 20900 | 79 | 683 |
| ABF | 38 | 5 | 20000 | 75 | 574 |
| ABH | 28 | 7 | 19800 | 75 | 1161 |
| AC | 38 | 6 | 23400 | 90 | 1022 |
| AD | 21 | 16 | 21000 | 81 | 3860 |
| AE | 30 | 16 | 21800 | 81 | 2788 |
| AF | 0 | 7 | 0 | 80 | 0 |
| AG | 14 | 3 | 20600 | 73 | 704 |
| AK | 39 | 8 | 19800 | 68 | 1618 |
| AM | 0 | 1 | 35100 | 81 | 1 |
| AME | 27 | 19 | 21800 | 76 | 897 |
| AMH | 32 | 19 | 20400 | 76 | 1666 |
| AMS | 23 | 11 | 20600 | 76 | 2849 |
| AO | 34 | 9 | 20800 | 79 | 1988 |
| AQ | 23 | 14 | 26900 | 87 | 1111 |
| AS | 0 | 14 | 27200 | 76 | 1 |
| ASE | 41 | 27 | 21900 | 79 | 258 |
| ASM | 44 | -12 | 23500 | 78 | 495 |
| AT | 33 | 14 | 24400 | 84 | 3930 |
| AV | 0 | 8 | 0 | 84 | 0 |
| AW | 32 | 53 | 23200 | 90 | 1056 |
| AX | 49 | 14 | 25900 | 83 | 614 |
| AZ | 50 | 5 | 19400 | 71 | 995 |
| BM | 45 | 10 | 19900 | 69 | 3063 |

a - From Table C-7

b - From Table C-8

c - From Table 3.4

d - From Table 4.1

e - From Table C-1

TABLE E-1 (CONT.)

| RATING | % SHORTAGE | % GROWTH | COST | PRIORITY | SIZE |
|--------|---------------|-------------|-------|----------|------|
| BT | 33 | 0 | 21500 | 80 | 3885 |
| BU | 22 | 18 | 20500 | 62 | 981 |
| CE | 37 | 12 | 22000 | 62 | 421 |
| CM | 27 | 18 | 21400 | 62 | 526 |
| CTA | 39 | 10 | 22500 | 65 | 349 |
| CTI | 36 | 5 | 21900 | 76 | 315 |
| CTM | 43 | 11 | 32700 | 74 | 935 |
| CTO | 39 | 7 | 22700 | 74 | 584 |
| CTR | 45 | 15 | 24000 | 75 | 498 |
| CTT | 35 | 26 | 31300 | 75 | 627 |
| CU | 0 | - 2 | 0 | 62 | 0 |
| DK | 32 | 10 | 20200 | 76 | 842 |
| DM | 42 | - 1 | 19500 | 53 | 133 |
| DP | 10 | 17 | 20400 | 75 | 1658 |
| DS | 21 | 17 | 26200 | 79 | 1499 |
| DT | 27 | 7 | 19500 | 54 | 1041 |
| EA | 25 | 5 | 20300 | 58 | 132 |
| EM | 29 | 10 | 23300 | 79 | 5310 |
| EN | 28 | 11 | 20100 | 80 | 2814 |
| EO | 27 | 15 | 20700 | 53 | 679 |
| EQ | 0 | 3 | 0 | 54 | 0 |
| ET | 27 | 10 | 25000 | 86 | 8373 |
| EW | 20 | 9 | 28300 | 90 | 946 |
| FT | 0 | 10 | 0 | 87 | 0 |
| FTB | 7 | 14 | 25400 | 92 | 477 |
| FTG | 30 | 19 | 26400 | 80 | 1527 |
| FTM | 47 | 18 | 27600 | 87 | 1384 |
| GM | 0 | 15 | 0 | 83 | 0 |
| GMG | 51 | 10 | 21000 | 77 | 1059 |
| GMM | 44 | 18 | 22900 | 82 | 469 |
| GMT | 35 | - 7 | 22300 | 81 | 644 |
| GS | 0 | 5 | 0 | 87 | 0 |

TABLE E-1 (CONT.)

| RATING | % SHORTAGE | % GROWTH | COST | PRIORITY | SIZE |
|--------|---------------|-------------|-------|----------|-------|
| GSE | 49 | 40 | 24700 | 80 | 195 |
| GSM | 35 | 38 | 24300 | 80 | 551 |
| HM | 33 | 16 | 19600 | 79 | 6951 |
| HT | 39 | 14 | 20500 | 80 | 3778 |
| IC | 39 | 8 | 22000 | 79 | 2441 |
| IM | 58 | 15 | 22200 | 70 | 138 |
| IS | 25 | 19 | 23300 | 69 | 426 |
| JO | 32 | 8 | 19700 | 29 | 320 |
| LI | 20 | 12 | 19300 | 39 | 203 |
| LN | 53 | 8 | 23300 | 34 | 90 |
| MA | -3600 | 23 | 24500 | 24 | 48 |
| ML | 60 | 16 | 20600 | 44 | 40 |
| MM | 27 | 6 | 22000 | 90 | 11308 |
| MN | 52 | 6 | 25600 | 50 | 160 |
| MR | 55 | 15 | 20500 | 77 | 718 |
| MS | 56 | 6 | 20600 | 65 | 3892 |
| MT | 23 | 9 | 24200 | 83 | 941 |
| MU | 72 | - 1 | 25300 | 10 | 144 |
| NC | -200 | 15 | 24200 | 39 | 3 |
| OM | 60 | 21 | 22300 | 49 | 79 |
| OS | 44 | 12 | 22700 | 79 | 2842 |
| OT | 33 | 16 | 24300 | 75 | 542 |
| PC | 49 | 7 | 19500 | 49 | 361 |
| PH | 10 | 6 | 21600 | 51 | 921 |
| PI | 0 | 71 | 0 | 58 | 0 |
| PM | 39 | 12 | 20700 | 47 | 47 |
| PN | 16 | 6 | 20300 | 63 | 2686 |
| PR | 38 | 14 | 21600 | 71 | 650 |
| QM | 42 | 13 | 20300 | 82 | 1195 |
| RM | 45 | 9 | 22300 | 87 | 4960 |
| RP | 39 | 56 | 20000 | 15 | 219 |
| SH | 51 | 2 | 20400 | 64 | 1326 |
| SK | 48 | 7 | 20200 | 72 | 2396 |

TABLE E-1 (CONT.)

| RATING | % SHORTAGE | % GROWTH | COST | PRIORITY | SIZE |
|--------|---------------|-------------|-------|----------|------|
| SM | 52 | 8 | 20700 | 74 | 812 |
| ST | 0 | 33 | 0 | 84 | 0 |
| STG | 27 | 9 | 23200 | 81 | 1877 |
| STS | 6 | 15 | 29200 | 82 | 1950 |
| SW | 9 | 18 | 20400 | 63 | 362 |
| TD | 37 | 16 | 24300 | 60 | 751 |
| TM | 33 | 9 | 23300 | 79 | 1294 |
| UT | 40 | 18 | 20600 | 55 | 405 |
| YM | 30 | 7 | 20200 | 60 | 4128 |

TABLE E-2

FY-82 Retention Severity Index Components
For Reenlistment Zone B

| RATING | % SHORTAGE ^a | % GROWTH ^b | COST ^c | PRIORITY ^d | SIZE ^e |
|--------|----------------------------|--------------------------|-------------------|-----------------------|-------------------|
| AB | 0 | - 3 | 0 | 75 | 0 |
| ABE | 63 | 6 | 25000 | 79 | 318 |
| ABF | 63 | 5 | 23300 | 75 | 294 |
| ABH | 63 | 7 | 22900 | 75 | 542 |
| AC | 67 | 6 | 26500 | 90 | 552 |
| AD | 72 | 16 | 24500 | 81 | 1644 |
| AE | 71 | 16 | 25800 | 81 | 1091 |
| AF | 0 | 7 | 0 | 80 | 0 |
| AG | 69 | 3 | 24300 | 73 | 243 |
| AK | 69 | 8 | 22400 | 68 | 832 |
| AM | 0 | 1 | 0 | 81 | 0 |
| AME | 71 | 19 | 25200 | 76 | 388 |
| AMH | 64 | 19 | 23800 | 76 | 976 |
| AMS | 70 | 11 | 24100 | 76 | 1176 |
| AO | 69 | 9 | 24600 | 79 | 909 |
| AQ | 71 | 14 | 29400 | 87 | 424 |
| AS | 93 | 14 | 27300 | 76 | 36 |
| ASE | 70 | 27 | 23600 | 79 | 95 |
| ASM | 71 | -12 | 25600 | 78 | 199 |
| AT | 65 | 14 | 27400 | 84 | 2003 |
| AV | 0 | 8 | 0 | 84 | 0 |
| AW | 33 | 53 | 27300 | 90 | 676 |
| AX | 75 | 14 | 28300 | 83 | 298 |
| AZ | 77 | 5 | 22000 | 71 | 513 |
| BM | 63 | 10 | 23700 | 69 | 2010 |

a - From Table C-7

b - From Table C-8

c - From Table 3.4

d - From Table 4.1

e - From Table C-2

TABLE E-2 (CONT.)

| RATING | % SHORTAGE | % GROWTH | COST | PRIORITY | SIZE |
|--------|---------------|-------------|-------|----------|------|
| BT | 60 | 0 | 25100 | 80 | 1846 |
| BU | 76 | 18 | 23900 | 62 | 288 |
| CE | 80 | 12 | 25300 | 62 | 142 |
| CM | 80 | 18 | 24000 | 62 | 148 |
| CTA | 58 | 10 | 25000 | 65 | 239 |
| CTI | 66 | 5 | 25500 | 76 | 220 |
| CTM | 60 | 11 | 33400 | 74 | 528 |
| CTO | 62 | 7 | 25400 | 74 | 365 |
| CTR | 66 | 15 | 26200 | 75 | 286 |
| CTT | 68 | 26 | 32700 | 75 | 339 |
| CU | 0 | - 2 | 0 | 62 | 0 |
| DK | 71 | 10 | 24500 | 76 | 419 |
| DM | 69 | - 1 | 22900 | 53 | 84 |
| DP | 67 | 17 | 23800 | 75 | 565 |
| DS | 64 | 17 | 32700 | 79 | 615 |
| DT | 62 | 7 | 22100 | 54 | 453 |
| EA | 84 | 5 | 24300 | 58 | 28 |
| EM | 68 | 10 | 27500 | 79 | 1924 |
| EN | 72 | 11 | 24500 | 80 | 1068 |
| EO | 78 | 15 | 24300 | 53 | 195 |
| EQ | 0 | 3 | 0 | 54 | 0 |
| ET | 71 | 10 | 28400 | 86 | 2830 |
| EW | 78 | 9 | 31200 | 90 | 264 |
| FT | 0 | 10 | 0 | 87 | 0 |
| FTB | 59 | 14 | 28500 | 92 | 221 |
| FTG | 79 | 19 | 29800 | 80 | 437 |
| FTM | 69 | 18 | 30900 | 87 | 663 |
| GM | 0 | 15 | 0 | 83 | 0 |
| GMG | 73 | 10 | 25500 | 77 | 618 |
| GMM | 65 | 18 | 27700 | 82 | 272 |
| GMT | 69 | - 7 | 26700 | 81 | 344 |
| GS | 0 | 5 | 0 | 87 | 0 |

TABLE E-2 (CONT.)

| RATING | % SHORTAGE | % GROWTH | COST | PRIORITY | SIZE |
|--------|---------------|-------------|-------|----------|------|
| GSE | 57 | 40 | 29000 | 80 | 149 |
| GSM | 70 | 38 | 28300 | 80 | 200 |
| HM | 64 | 16 | 22600 | 79 | 3167 |
| HT | 73 | 14 | 24900 | 80 | 1527 |
| IC | 75 | 8 | 26400 | 79 | 803 |
| IM | 80 | 15 | 26200 | 70 | 66 |
| IS | 75 | 19 | 26100 | 69 | 156 |
| JO | 66 | 8 | 23200 | 29 | 140 |
| LI | 68 | 12 | 22800 | 39 | 85 |
| LN | 70 | 8 | 24300 | 34 | 102 |
| MA | 72 | 23 | 25300 | 24 | 250 |
| ML | 75 | 16 | 24700 | 44 | 25 |
| MM | 69 | 6 | 25500 | 90 | 4278 |
| MN | 56 | 6 | 28600 | 50 | 104 |
| MR | 73 | 15 | 25600 | 77 | 414 |
| MS | 79 | 6 | 23100 | 65 | 2207 |
| MT | 56 | 9 | 27700 | 83 | 453 |
| MU | 73 | - 1 | 26400 | 10 | 121 |
| NC | 83 | 15 | 27800 | 39 | 154 |
| OM | 75 | 21 | 26400 | 49 | 51 |
| OS | 73 | 12 | 26900 | 79 | 1246 |
| OT | 72 | 16 | 27800 | 75 | 251 |
| PC | 70 | 7 | 22500 | 49 | 159 |
| PH | 76 | 6 | 23200 | 51 | 250 |
| PI | 0 | 71 | 0 | 58 | 0 |
| PM | 88 | 12 | 23300 | 47 | 11 |
| PN | 60 | 6 | 24200 | 63 | 1431 |
| PR | 68 | 14 | 24200 | 71 | 342 |
| QM | 73 | 13 | 24900 | 82 | 541 |
| RM | 72 | 9 | 25500 | 87 | 2224 |
| RP | 76 | 56 | 23000 | 15 | 83 |
| SH | 68 | 2 | 24200 | 64 | 847 |
| SK | 62 | 7 | 24200 | 72 | 1805 |

TABLE E-2 (CONT.)

| RATING | % SHORTAGE | % GROWTH | COST | PRIORITY | SIZE |
|--------|---------------|-------------|-------|----------|------|
| SM | 68 | 8 | 24400 | 74 | 472 |
| ST | 0 | 33 | 0 | 84 | 0 |
| STG | 80 | 9 | 27200 | 81 | 505 |
| STS | 65 | 15 | 32400 | 82 | 527 |
| SW | 79 | 18 | 24500 | 63 | 81 |
| TD | 60 | 16 | 27200 | 60 | 495 |
| TM | 64 | 9 | 27200 | 79 | 690 |
| UT | 75 | 18 | 24100 | 55 | 170 |
| YM | 65 | 7 | 23700 | 60 | 2165 |

TABLE E-3

FY-82 Retention Severity Index Components
For Reenlistment Zone C

| RATING | % SHORTAGE ^a | % GROWTH ^b | COST ^c | PRIORITY ^d | SIZE ^e |
|--------|----------------------------|--------------------------|-------------------|-----------------------|-------------------|
| AB | 0 | - 3 | 0 | 75 | 0 |
| ABE | 66 | 6 | 28500 | 79 | 185 |
| ABF | 61 | 5 | 27600 | 75 | 189 |
| ABH | 65 | 7 | 26200 | 75 | 318 |
| AC | 68 | 6 | 28800 | 90 | 328 |
| AD | 63 | 16 | 27700 | 81 | 1528 |
| AE | 54 | 16 | 28400 | 81 | 1048 |
| AF | 0 | 7 | 0 | 80 | 0 |
| AG | 92 | 3 | 27500 | 73 | 55 |
| AK | 68 | 8 | 25700 | 68 | 518 |
| AM | 0 | 1 | 35100 | 81 | 3 |
| AME | 64 | 19 | 27600 | 76 | 280 |
| AMH | 51 | 19 | 27200 | 76 | 835 |
| AMS | 67 | 11 | 27100 | 76 | 849 |
| AO | 66 | 9 | 27400 | 79 | 639 |
| AQ | 62 | 14 | 31200 | 87 | 371 |
| AS | 66 | 14 | 27700 | 76 | 215 |
| ASE | 0 | 27 | 24200 | 79 | 32 |
| ASM | 0 | -12 | 26200 | 78 | 99 |
| AT | 67 | 14 | 29300 | 84 | 1176 |
| AV | 0 | 8 | 0 | 84 | 0 |
| AW | 17 | 53 | 30000 | 90 | 337 |
| AX | 68 | 14 | 30400 | 83 | 218 |
| AZ | 70 | 5 | 25800 | 71 | 394 |
| BM | 66 | 10 | 27200 | 69 | 1349 |

a - From Table C-7

b - From Table C-8

c - From Table 3.4

d - From Table 4.1

e - From Table C-8

TABLE E-3 (CONT.)

| RATING | % SHORTAGE | % GROWTH | COST | PRIORITY | SIZE |
|--------|---------------|-------------|-------|----------|------|
| BT | 72 | 0 | 28700 | 80 | 810 |
| BU | 65 | 18 | 27700 | 62 | 274 |
| CE | 74 | 12 | 27200 | 62 | 133 |
| CM | 75 | 18 | 27500 | 62 | 132 |
| CTA | 59 | 10 | 28100 | 65 | 147 |
| CTI | 75 | 5 | 27700 | 76 | 115 |
| CTM | 80 | 11 | 33600 | 74 | 135 |
| CTO | 65 | 7 | 28200 | 74 | 196 |
| CTR | 69 | 15 | 28300 | 75 | 197 |
| CTT | 77 | 26 | 32800 | 75 | 172 |
| CU | 0 | - 2 | 0 | 62 | 0 |
| DK | 78 | 10 | 27700 | 76 | 210 |
| DM | 67 | - 1 | 25900 | 53 | 50 |
| DP | 73 | 17 | 27200 | 75 | 304 |
| DS | 80 | 17 | 35900 | 79 | 215 |
| DT | 64 | 7 | 25800 | 54 | 253 |
| EA | 64 | 5 | 28000 | 58 | 38 |
| EM | 77 | 10 | 31600 | 79 | 939 |
| EN | 76 | 11 | 27900 | 80 | 668 |
| EO | 85 | 15 | 26400 | 53 | 127 |
| EQ | 0 | 3 | 0 | 54 | 0 |
| ET | 79 | 10 | 31000 | 86 | 1209 |
| EW | 84 | 9 | 33200 | 90 | 145 |
| FT | 0 | 10 | 80600 | 87 | 5 |
| FTB | 78 | 14 | 31800 | 92 | 78 |
| FTG | 83 | 19 | 32400 | 80 | 274 |
| FTM | 88 | 18 | 32900 | 87 | 191 |
| GM | 0 | 15 | 81400 | 83 | 2 |
| GMG | 68 | 10 | 29000 | 77 | 504 |
| GMM | 79 | 18 | 30900 | 82 | 136 |
| GMT | 75 | - 7 | 28800 | 81 | 185 |
| GS | 0 | 5 | 73200 | 87 | 3 |

TABLE E-3 (CONT.)

| RATING | % SHORTAGE | % GROWTH | COST | PRIORITY | SIZE |
|--------|---------------|-------------|-------|----------|------|
| GSE | 72 | 40 | 32300 | 80 | 87 |
| GSM | 75 | 38 | 31100 | 80 | 110 |
| HM | 62 | 16 | 26200 | 79 | 2149 |
| HT | 72 | 14 | 28200 | 80 | 1112 |
| IC | 74 | 8 | 30100 | 79 | 522 |
| IM | 60 | 15 | 28800 | 70 | 78 |
| IS | 67 | 19 | 28500 | 69 | 136 |
| JO | 67 | 8 | 25800 | 29 | 100 |
| LI | 65 | 12 | 25800 | 39 | 56 |
| LN | 72 | 8 | 26500 | 34 | 79 |
| MA | 72 | 23 | 27900 | 24 | 394 |
| ML | 70 | 16 | 26900 | 44 | 25 |
| MM | 75 | 6 | 30900 | 90 | 2098 |
| MN | 48 | 6 | 30200 | 50 | 94 |
| MR | 69 | 15 | 28200 | 77 | 268 |
| MS | 84 | 6 | 26300 | 65 | 1518 |
| MT | 60 | 9 | 30700 | 83 | 234 |
| MU | 68 | - 1 | 28400 | 10 | 137 |
| NC | 71 | 15 | 29300 | 39 | 381 |
| OM | 70 | 21 | 28800 | 49 | 42 |
| OS | 75 | 12 | 30500 | 79 | 687 |
| OT | 70 | 16 | 29700 | 75 | 173 |
| PC | 67 | 7 | 25600 | 49 | 131 |
| PH | 70 | 6 | 25400 | 51 | 163 |
| PI | 0 | 71 | 0 | 58 | 0 |
| PM | 71 | 12 | 27400 | 47 | 22 |
| PN | 72 | 6 | 27700 | 63 | 773 |
| PR | 64 | 14 | 26700 | 71 | 225 |
| QM | 77 | 13 | 28900 | 82 | 416 |
| RM | 67 | 9 | 28500 | 87 | 1662 |
| RP | 60 | 56 | 25700 | 15 | 95 |
| SH | 64 | 2 | 26900 | 64 | 737 |
| SK | 74 | 7 | 27100 | 72 | 1009 |

TABLE E-3 (CONT.)

| RATING | $\%$ SHORTAGE | $\%$ GROWTH | COST | PRIORITY | SIZE |
|--------|------------------|----------------|-------|----------|------|
| SM | 74 | 8 | 27900 | 74 | 250 |
| ST | 0 | 33 | 0 | 84 | 0 |
| STG | 84 | 9 | 30300 | 81 | 228 |
| STS | 81 | 15 | 35200 | 82 | 195 |
| SW | 67 | 18 | 28500 | 63 | 88 |
| TD | 52 | 16 | 29200 | 60 | 337 |
| TM | 69 | 9 | 29500 | 79 | 415 |
| UT | 68 | 18 | 26800 | 55 | 142 |
| YM | 65 | 7 | 27000 | 60 | 1578 |

TABLE E-4

Rankings For FY-82 Zone A RSI Components*

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| AB | 8 | 3 | 5 | 46 | 94 |
| ABE | 62 | 20 | 46 | 63 | 50 |
| ABF | 62 | 14 | 21 | 46 | 57 |
| ABH | 39 | 27 | 18 | 46 | 32 |
| AC | 62 | 20 | 74 | 96 | 37 |
| AD | 24 | 74 | 47 | 77 | 10 |
| AE | 43 | 74 | 53 | 77 | 16 |
| AF | 8 | 27 | 5 | 71 | 94 |
| AG | 20 | 10 | 39 | 39 | 49 |
| AK | 68 | 33 | 18 | 32 | 25 |
| AM | 8 | 8 | 99 | 77 | 88 |
| AME | 35 | 87 | 53 | 52 | 44 |
| AMH | 46 | 87 | 31 | 52 | 23 |
| AMS | 28 | 51 | 39 | 52 | 13 |
| AO | 54 | 39 | 45 | 63 | 20 |
| AQ | 28 | 61 | 92 | 92 | 33 |
| AS | 8 | 61 | 93 | 52 | 88 |
| ASE | 73 | 93 | 55 | 63 | 73 |
| ASM | 78 | 1 | 75 | 58 | 62 |
| AT | 51 | 61 | 82 | 87 | 7 |
| AV | 8 | 33 | 5 | 87 | 94 |
| AW | 46 | 97 | 68 | 96 | 35 |
| AX | 86 | 61 | 89 | 84 | 55 |
| AZ | 88 | 14 | 12 | 36 | 38 |
| BM | 81 | 46 | 20 | 33 | 12 |
| BT | 51 | 7 | 50 | 71 | 9 |
| BU | 26 | 82 | 35 | 24 | 39 |
| CE | 59 | 54 | 58 | 24 | 66 |
| CM | 35 | 82 | 49 | 24 | 60 |
| CTA | 68 | 46 | 64 | 30 | 70 |

* Scaled from 1 for least severe to 99 for most severe impact on retention.

TABLE E-4 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| CTI | 58 | 14 | 55 | 52 | 72 |
| CTM | 76 | 51 | 98 | 41 | 42 |
| CTO | 68 | 27 | 65 | 41 | 56 |
| CTR | 81 | 68 | 76 | 46 | 61 |
| CTT | 56 | 92 | 97 | 46 | 54 |
| CU | 8 | 4 | 5 | 24 | 94 |
| DK | 46 | 46 | 25 | 52 | 45 |
| DM | 74 | 5 | 14 | 14 | 80 |
| DP | 18 | 78 | 31 | 46 | 24 |
| DS | 24 | 78 | 90 | 63 | 27 |
| DT | 35 | 27 | 14 | 16 | 36 |
| EA | 30 | 14 | 28 | 19 | 81 |
| EM | 41 | 46 | 71 | 63 | 4 |
| EN | 39 | 51 | 23 | 71 | 15 |
| EO | 35 | 68 | 43 | 14 | 51 |
| EQ | 8 | 10 | 5 | 16 | 94 |
| ET | 35 | 46 | 85 | 89 | 2 |
| EW | 22 | 39 | 95 | 96 | 40 |
| FT | 8 | 46 | 5 | 92 | 94 |
| FTB | 16 | 61 | 87 | 99 | 63 |
| FTG | 43 | 87 | 91 | 71 | 26 |
| FTM | 83 | 82 | 94 | 92 | 28 |
| GM | 8 | 68 | 5 | 84 | 94 |
| GMG | 89 | 46 | 47 | 56 | 34 |
| GMM | 78 | 82 | 67 | 81 | 64 |
| GMT | 56 | 2 | 62 | 77 | 53 |
| GS | 8 | 14 | 5 | 92 | 94 |
| GSE | 86 | 96 | 84 | 71 | 76 |
| GSM | 56 | 95 | 80 | 71 | 58 |
| HM | 51 | 74 | 16 | 63 | 3 |
| HT | 68 | 61 | 35 | 71 | 11 |
| IC | 68 | 33 | 58 | 63 | 18 |
| IM | 96 | 68 | 60 | 35 | 79 |

TABLE E-4 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| IS | 30 | 87 | 71 | 33 | 65 |
| JO | 46 | 33 | 17 | 4 | 71 |
| LI | 22 | 54 | 11 | 6 | 75 |
| LN | 93 | 33 | 71 | 5 | 82 |
| MA | 1 | 91 | 83 | 3 | 84 |
| ML | 97 | 74 | 39 | 8 | 86 |
| MM | 35 | 20 | 58 | 96 | 1 |
| MN | 91 | 20 | 88 | 12 | 77 |
| MR | 94 | 68 | 35 | 56 | 48 |
| MS | 95 | 20 | 39 | 30 | 8 |
| MT | 28 | 39 | 77 | 84 | 41 |
| MU | 99 | 5 | 86 | 1 | 78 |
| NC | 2 | 68 | 77 | 6 | 87 |
| OM | 97 | 90 | 62 | 10 | 83 |
| OS | 78 | 54 | 65 | 63 | 14 |
| OT | 51 | 74 | 80 | 46 | 59 |
| PC | 86 | 27 | 14 | 10 | 69 |
| PH | 18 | 20 | 51 | 13 | 43 |
| PI | 8 | 99 | 5 | 19 | 94 |
| PM | 68 | 54 | 43 | 9 | 85 |
| PN | 21 | 20 | 28 | 27 | 17 |
| PR | 62 | 61 | 51 | 36 | 52 |
| QM | 74 | 57 | 28 | 81 | 31 |
| RM | 81 | 39 | 62 | 92 | 5 |
| RP | 68 | 98 | 21 | 2 | 74 |
| SH | 89 | 9 | 31 | 29 | 29 |
| SK | 84 | 27 | 25 | 38 | 19 |
| SM | 91 | 33 | 43 | 41 | 46 |
| ST | 8 | 94 | 5 | 87 | 94 |
| STG | 35 | 39 | 68 | 77 | 22 |
| STS | 15 | 68 | 96 | 81 | 21 |
| SW | 17 | 82 | 31 | 27 | 68 |
| TD | 59 | 74 | 80 | 21 | 47 |

TABLE E-4 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| TM | 51 | 39 | 71 | 63 | 30 |
| UT | 72 | 82 | 39 | 18 | 67 |
| YM | 43 | 27 | 25 | 21 | 6 |

TABLE E-5

Rankings For FY-82 Zone B RSI Components*

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| AB | 6 | 3 | 6 | 46 | 94 |
| ABE | 26 | 20 | 52 | 63 | 50 |
| ABF | 26 | 14 | 24 | 46 | 52 |
| ABH | 26 | 27 | 18 | 46 | 31 |
| AC | 40 | 20 | 72 | 96 | 30 |
| AD | 68 | 74 | 45 | 77 | 12 |
| AE | 62 | 74 | 65 | 77 | 17 |
| AF | 6 | 27 | 6 | 71 | 94 |
| AG | 51 | 10 | 40 | 39 | 60 |
| AK | 51 | 33 | 14 | 32 | 22 |
| AM | 6 | 8 | 6 | 77 | 94 |
| AME | 62 | 87 | 55 | 52 | 45 |
| AMH | 30 | 87 | 29 | 52 | 19 |
| AMS | 57 | 51 | 33 | 52 | 16 |
| AO | 51 | 39 | 48 | 63 | 20 |
| AQ | 62 | 61 | 92 | 92 | 42 |
| AS | 99 | 61 | 78 | 52 | 85 |
| ASE | 57 | 93 | 26 | 63 | 78 |
| ASM | 62 | 1 | 63 | 58 | 65 |
| AT | 34 | 61 | 80 | 87 | 8 |
| AV | 6 | 33 | 6 | 87 | 94 |
| AW | 12 | 97 | 78 | 96 | 25 |
| AX | 79 | 61 | 86 | 84 | 51 |
| AZ | 86 | 14 | 12 | 36 | 35 |
| BM | 26 | 46 | 27 | 33 | 7 |
| BT | 19 | 7 | 54 | 71 | 10 |
| BU | 84 | 82 | 31 | 24 | 53 |
| CE | 93 | 54 | 56 | 24 | 73 |
| CM | 93 | 82 | 32 | 24 | 72 |
| CTA | 16 | 46 | 52 | 30 | 61 |

* Scaled from 1 for least severe to 99 for most severe impact on retention.

TABLE E-5 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| CTI | 38 | 14 | 60 | 52 | 63 |
| CTM | 19 | 51 | 99 | 41 | 33 |
| CTO | 23 | 27 | 58 | 41 | 46 |
| CTR | 38 | 68 | 67 | 46 | 54 |
| CTT | 44 | 92 | 97 | 46 | 49 |
| CU | 6 | 4 | 6 | 24 | 94 |
| DK | 62 | 46 | 45 | 52 | 43 |
| DM | 51 | 5 | 18 | 14 | 80 |
| DP | 40 | 78 | 29 | 46 | 29 |
| DS | 30 | 78 | 97 | 63 | 28 |
| DT | 23 | 27 | 13 | 16 | 39 |
| EA | 97 | 14 | 40 | 19 | 86 |
| EM | 44 | 46 | 81 | 63 | 9 |
| EN | 68 | 51 | 45 | 71 | 18 |
| EO | 87 | 68 | 40 | 14 | 66 |
| EQ | 6 | 10 | 6 | 16 | 94 |
| ET | 62 | 46 | 88 | 89 | 3 |
| EW | 87 | 39 | 95 | 96 | 56 |
| FT | 6 | 46 | 6 | 92 | 94 |
| FTB | 17 | 61 | 89 | 99 | 62 |
| FTG | 90 | 87 | 93 | 71 | 41 |
| FTM | 51 | 82 | 94 | 92 | 26 |
| GM | 6 | 68 | 6 | 84 | 94 |
| GMG | 73 | 46 | 60 | 56 | 27 |
| GMM | 34 | 82 | 82 | 81 | 55 |
| GMT | 51 | 2 | 73 | 77 | 47 |
| GS | 6 | 14 | 6 | 92 | 94 |
| GSE | 15 | 96 | 91 | 71 | 71 |
| GSM | 57 | 95 | 86 | 71 | 64 |
| HM | 30 | 74 | 16 | 63 | 2 |
| HT | 73 | 61 | 50 | 71 | 13 |
| IC | 79 | 33 | 70 | 63 | 23 |
| IM | 93 | 68 | 67 | 35 | 83 |

TABLE E-5 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| IS | 79 | 87 | 66 | 33 | 69 |
| JO | 38 | 33 | 22 | 4 | 74 |
| LI | 44 | 54 | 17 | 6 | 79 |
| LN | 57 | 33 | 40 | 5 | 77 |
| MA | 68 | 91 | 56 | 3 | 58 |
| ML | 79 | 74 | 49 | 8 | 87 |
| MM | 51 | 20 | 60 | 96 | 1 |
| MN | 13 | 20 | 90 | 12 | 76 |
| MR | 73 | 68 | 63 | 56 | 44 |
| MS | 90 | 20 | 21 | 30 | 5 |
| MT | 13 | 39 | 82 | 84 | 39 |
| MU | 73 | 5 | 70 | 1 | 75 |
| NC | 96 | 68 | 84 | 6 | 70 |
| OM | 79 | 90 | 70 | 10 | 84 |
| OS | 73 | 54 | 74 | 63 | 15 |
| OT | 68 | 74 | 84 | 46 | 57 |
| PC | 57 | 27 | 15 | 10 | 68 |
| PH | 84 | 20 | 22 | 13 | 58 |
| PI | 6 | 99 | 6 | 19 | 94 |
| PM | 98 | 54 | 24 | 9 | 88 |
| PN | 19 | 20 | 36 | 27 | 14 |
| PR | 44 | 61 | 36 | 36 | 48 |
| QM | 73 | 57 | 50 | 81 | 32 |
| RM | 68 | 39 | 60 | 92 | 4 |
| RP | 84 | 98 | 20 | 2 | 81 |
| SH | 44 | 9 | 36 | 29 | 21 |
| SK | 23 | 27 | 36 | 38 | 11 |
| SM | 44 | 33 | 43 | 41 | 38 |
| ST | 6 | 94 | 6 | 87 | 94 |
| STG | 93 | 39 | 76 | 77 | 36 |
| STS | 34 | 68 | 96 | 81 | 34 |
| SW | 90 | 82 | 45 | 27 | 82 |
| TD | 19 | 74 | 76 | 21 | 37 |

TABLE E-5 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| TM | 30 | 39 | 76 | 63 | 24 |
| UT | 79 | 82 | 33 | 18 | 67 |
| YM | 34 | 27 | 27 | 21 | 6 |

TABLE E-6

Rankings For FY-82 Zone C RSI Components*

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| AB | 7 | 3 | 4 | 46 | 96 |
| ABE | 38 | 20 | 59 | 63 | 54 |
| ABF | 23 | 14 | 39 | 46 | 53 |
| ABH | 34 | 27 | 19 | 46 | 34 |
| AC | 51 | 20 | 64 | 96 | 33 |
| AD | 26 | 74 | 43 | 77 | 5 |
| AE | 18 | 74 | 56 | 77 | 11 |
| AF | 7 | 27 | 4 | 71 | 96 |
| AG | 99 | 10 | 37 | 39 | 82 |
| AK | 51 | 33 | 11 | 32 | 23 |
| AM | 7 | 8 | 94 | 77 | 90 |
| AME | 29 | 87 | 39 | 52 | 36 |
| AMH | 16 | 87 | 32 | 52 | 15 |
| AMS | 44 | 51 | 29 | 52 | 14 |
| AO | 38 | 39 | 35 | 63 | 21 |
| AQ | 24 | 61 | 85 | 92 | 30 |
| AS | 38 | 61 | 43 | 52 | 46 |
| ASE | 7 | 93 | 8 | 63 | 86 |
| ASM | 7 | 1 | 19 | 58 | 73 |
| AT | 44 | 61 | 70 | 87 | 9 |
| AV | 7 | 33 | 4 | 87 | 96 |
| AW | 14 | 97 | 74 | 96 | 31 |
| AX | 51 | 61 | 78 | 84 | 45 |
| AZ | 60 | 14 | 14 | 36 | 27 |
| BM | 38 | 46 | 32 | 33 | 7 |
| BT | 6 | 7 | 62 | 71 | 16 |
| BU | 34 | 82 | 43 | 24 | 37 |
| CE | 73 | 54 | 32 | 24 | 66 |
| CM | 78 | 82 | 37 | 24 | 67 |
| CTA | 19 | 46 | 51 | 30 | 59 |

* Scaled from 1 for least severe to 99 for most severe impact on retention.

TABLE E-6 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| CTI | 78 | 14 | 43 | 52 | 70 |
| CTM | 90 | 51 | 93 | 41 | 65 |
| CTO | 34 | 27 | 53 | 41 | 50 |
| CTR | 56 | 68 | 55 | 46 | 49 |
| CTT | 84 | 92 | 90 | 46 | 57 |
| CU | 7 | 4 | 4 | 24 | 96 |
| DK | 86 | 46 | 43 | 52 | 48 |
| DM | 44 | 5 | 17 | 14 | 83 |
| DP | 71 | 78 | 32 | 46 | 35 |
| DS | 90 | 78 | 96 | 63 | 46 |
| DT | 29 | 27 | 14 | 16 | 40 |
| EA | 29 | 14 | 50 | 19 | 85 |
| EM | 84 | 46 | 86 | 63 | 13 |
| EN | 82 | 51 | 48 | 71 | 20 |
| EO | 97 | 68 | 22 | 14 | 69 |
| EQ | 7 | 10 | 4 | 16 | 96 |
| ET | 88 | 46 | 83 | 89 | 8 |
| EW | 95 | 39 | 92 | 96 | 60 |
| FT | 7 | 46 | 98 | 92 | 89 |
| FTB | 86 | 61 | 87 | 99 | 79 |
| FTG | 93 | 87 | 89 | 71 | 37 |
| FTM | 98 | 82 | 91 | 92 | 52 |
| GM | 7 | 68 | 99 | 84 | 92 |
| GMG | 51 | 46 | 68 | 56 | 24 |
| GMM | 88 | 82 | 81 | 81 | 63 |
| GMT | 78 | 2 | 64 | 77 | 54 |
| GS | 7 | 14 | 97 | 92 | 90 |
| GSE | 67 | 96 | 88 | 71 | 77 |
| GSM | 78 | 95 | 84 | 71 | 71 |
| HM | 24 | 74 | 19 | 63 | 1 |
| HT | 67 | 61 | 53 | 71 | 10 |
| IC | 73 | 33 | 75 | 63 | 22 |
| IM | 21 | 68 | 64 | 35 | 79 |

TABLE E-6 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| IS | 44 | 87 | 59 | 33 | 63 |
| JO | 44 | 33 | 14 | 4 | 72 |
| LI | 34 | 54 | 14 | 6 | 81 |
| LN | 67 | 33 | 23 | 5 | 78 |
| MA | 67 | 91 | 48 | 3 | 27 |
| ML | 60 | 74 | 26 | 8 | 87 |
| MM | 78 | 20 | 81 | 96 | 2 |
| MN | 15 | 20 | 76 | 12 | 75 |
| MR | 56 | 68 | 53 | 56 | 39 |
| MS | 95 | 20 | 21 | 30 | 6 |
| MT | 21 | 39 | 80 | 84 | 42 |
| MU | 51 | 5 | 56 | 1 | 62 |
| NC | 63 | 68 | 70 | 6 | 29 |
| OM | 60 | 90 | 64 | 10 | 84 |
| OS | 78 | 54 | 79 | 63 | 19 |
| OT | 60 | 74 | 73 | 46 | 56 |
| PC | 44 | 27 | 10 | 10 | 68 |
| PH | 60 | 20 | 9 | 13 | 58 |
| PI | 7 | 99 | 4 | 19 | 96 |
| PM | 63 | 54 | 35 | 9 | 88 |
| PN | 67 | 20 | 43 | 27 | 17 |
| PR | 29 | 61 | 24 | 36 | 44 |
| QM | 84 | 57 | 67 | 81 | 25 |
| RM | 44 | 39 | 59 | 92 | 3 |
| RP | 21 | 98 | 11 | 2 | 74 |
| SH | 29 | 9 | 26 | 29 | 18 |
| SK | 73 | 27 | 29 | 38 | 12 |
| SM | 73 | 33 | 48 | 41 | 41 |
| ST | 7 | 94 | 4 | 87 | 96 |
| STG | 95 | 39 | 77 | 77 | 43 |
| STS | 92 | 68 | 95 | 81 | 51 |
| SW | 44 | 82 | 59 | 27 | 76 |
| TD | 17 | 74 | 69 | 21 | 31 |

TABLE E-6 (CONT.)

| <u>RATING</u> | <u>SHORTAGE</u> | <u>GROWTH</u> | <u>COST</u> | <u>PRIORITY</u> | <u>SIZE</u> |
|---------------|-----------------|---------------|-------------|-----------------|-------------|
| TM | 56 | 39 | 72 | 63 | 26 |
| UT | 51 | 82 | 25 | 18 | 61 |
| YM | 34 | 27 | 28 | 21 | 4 |

TABLE E-7

Zone A Retention Severity Index Standardized Components*

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| AB | 50.2 | 36.4 | 22.6 | 53.0 | 57.2 |
| ABE | 51.3 | 44.1 | 50.8 | 55.4 | 53.5 |
| ABF | 51.3 | 43.3 | 49.6 | 53.0 | 54.1 |
| ABH | 51.0 | 45.0 | 49.3 | 53.0 | 50.9 |
| AC | 51.3 | 44.1 | 54.1 | 62.0 | 51.7 |
| AD | 50.8 | 52.7 | 50.9 | 56.6 | 36.2 |
| AE | 51.0 | 52.7 | 52.0 | 56.6 | 42.0 |
| AF | 50.2 | 45.0 | 22.6 | 56.0 | 57.2 |
| AG | 50.6 | 41.5 | 50.4 | 51.7 | 53.4 |
| AK | 51.3 | 45.8 | 49.3 | 48.7 | 48.4 |
| AM | 50.2 | 39.8 | 69.9 | 56.6 | 57.2 |
| AME | 51.0 | 55.3 | 52.0 | 53.6 | 52.4 |
| AMH | 51.1 | 55.3 | 50.1 | 53.6 | 48.2 |
| AMS | 50.8 | 48.4 | 50.4 | 53.6 | 41.7 |
| AO | 51.1 | 46.7 | 50.6 | 55.4 | 46.4 |
| AQ | 50.8 | 51.0 | 58.9 | 60.2 | 51.2 |
| AS | 50.2 | 51.0 | 59.3 | 53.6 | 57.2 |
| ASE | 51.3 | 62.2 | 52.1 | 55.4 | 55.8 |
| ASM | 51.4 | 28.6 | 54.3 | 54.8 | 54.5 |
| AT | 51.1 | 51.0 | 55.5 | 58.4 | 35.8 |
| AV | 50.2 | 45.8 | 22.6 | 58.4 | 57.2 |
| AW | 51.1 | 84.6 | 53.9 | 62.0 | 51.5 |
| AX | 51.6 | 51.0 | 57.5 | 57.8 | 53.9 |
| AZ | 51.6 | 43.3 | 48.8 | 50.5 | 51.8 |
| BM | 51.4 | 47.6 | 49.4 | 49.3 | 40.5 |
| BT | 51.1 | 38.9 | 51.6 | 56.0 | 36.1 |
| BU | 50.8 | 54.5 | 50.2 | 45.1 | 51.9 |
| CE | 51.2 | 49.3 | 52.3 | 45.1 | 55.0 |
| CM | 51.0 | 54.5 | 51.4 | 45.1 | 54.4 |
| CTA | 51.3 | 47.6 | 52.9 | 46.9 | 55.3 |

*Table E-1 transformed to mean 50 and standard deviation 10 for each component.

TABLE E-7 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| CTI | 51.2 | 43.3 | 52.1 | 53.6 | 55.5 |
| CTM | 51.4 | 48.4 | 66.7 | 52.3 | 52.1 |
| CTO | 51.3 | 45.0 | 53.2 | 52.3 | 54.1 |
| CTR | 51.4 | 51.9 | 54.9 | 53.0 | 54.5 |
| CTT | 51.2 | 61.4 | 64.8 | 53.0 | 53.8 |
| CU | 50.2 | 37.2 | 22.6 | 45.1 | 57.2 |
| DK | 51.1 | 47.6 | 49.8 | 53.6 | 52.7 |
| DM | 51.4 | 38.1 | 48.9 | 39.6 | 56.5 |
| DP | 50.5 | 53.6 | 50.1 | 53.0 | 48.2 |
| DS | 50.8 | 53.6 | 57.9 | 55.4 | 49.1 |
| DT | 51.0 | 45.0 | 48.9 | 40.2 | 51.6 |
| EA | 50.9 | 43.3 | 50.0 | 42.7 | 56.5 |
| EM | 51.0 | 47.6 | 54.0 | 55.4 | 28.3 |
| EN | 51.0 | 48.4 | 49.7 | 56.0 | 41.9 |
| EO | 51.0 | 51.9 | 50.5 | 39.6 | 53.5 |
| EQ | 50.2 | 41.5 | 22.6 | 40.2 | 57.2 |
| ET | 51.0 | 47.6 | 56.3 | 59.6 | 11.6 |
| EW | 50.8 | 46.7 | 60.7 | 62.0 | 52.1 |
| FT | 50.2 | 47.6 | 22.6 | 60.2 | 57.2 |
| FTB | 50.4 | 51.0 | 56.8 | 63.3 | 54.6 |
| FTG | 51.0 | 55.3 | 58.2 | 56.0 | 48.9 |
| FTM | 51.5 | 54.5 | 59.8 | 60.2 | 49.7 |
| GM | 50.2 | 51.9 | 22.6 | 57.8 | 57.2 |
| GMG | 51.6 | 47.6 | 50.9 | 54.2 | 51.5 |
| GMM | 51.4 | 54.5 | 53.5 | 57.2 | 54.7 |
| GMT | 51.2 | 32.9 | 52.7 | 56.6 | 53.7 |
| GS | 50.2 | 43.3 | 22.6 | 60.2 | 57.2 |
| GSE | 51.6 | 73.4 | 55.9 | 56.0 | 56.2 |
| GSM | 51.2 | 71.7 | 55.4 | 56.0 | 54.2 |
| HM | 51.1 | 52.7 | 49.0 | 55.4 | 19.3 |
| HT | 51.3 | 51.0 | 50.2 | 56.0 | 36.6 |
| IC | 51.3 | 45.8 | 52.3 | 55.4 | 43.9 |
| IM | 51.8 | 51.9 | 52.5 | 49.9 | 56.5 |

TABLE E-7 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| IS | 50.9 | 55.3 | 54.0 | 49.3 | 54.9 |
| JO | 51.1 | 45.8 | 49.2 | 25.1 | 55.5 |
| LI | 50.8 | 49.3 | 48.6 | 31.1 | 56.1 |
| LN | 51.7 | 45.8 | 54.0 | 28.1 | 56.8 |
| MA | -48.1 | 58.8 | 55.6 | 22.0 | 57.0 |
| ML | 51.9 | 52.7 | 50.4 | 34.2 | 57.0 |
| MM | 51.0 | 44.1 | 52.3 | 62.0 | -4.4 |
| MN | 51.6 | 44.1 | 57.1 | 37.8 | 56.4 |
| MR | 51.7 | 51.9 | 50.2 | 54.2 | 53.3 |
| MS | 51.7 | 44.1 | 50.4 | 46.9 | 36.0 |
| MT | 50.8 | 46.7 | 55.2 | 57.8 | 52.1 |
| MU | 52.2 | 38.1 | 56.7 | 13.6 | 56.5 |
| NC | 44.8 | 51.9 | 55.2 | 31.1 | 57.2 |
| OM | 51.9 | 57.0 | 52.7 | 37.2 | 56.8 |
| OS | 51.4 | 49.3 | 53.2 | 55.4 | 41.8 |
| OT | 51.1 | 52.7 | 55.4 | 53.0 | 54.3 |
| PC | 51.6 | 45.0 | 48.9 | 37.2 | 55.3 |
| PH | 50.5 | 44.1 | 51.7 | 38.4 | 52.2 |
| PI | 50.2 | 100.1 | 22.6 | 42.7 | 57.2 |
| PM | 51.3 | 49.3 | 50.5 | 36.0 | 57.0 |
| PN | 50.7 | 44.1 | 50.0 | 45.7 | 42.6 |
| PR | 51.3 | 51.0 | 51.7 | 50.5 | 53.7 |
| QM | 51.4 | 50.1 | 50.0 | 57.2 | 50.7 |
| RM | 51.4 | 46.7 | 52.7 | 60.2 | 30.2 |
| RP | 51.3 | 87.2 | 49.6 | 16.6 | 56.1 |
| SH | 51.6 | 40.7 | 50.1 | 46.3 | 50.0 |
| SK | 51.5 | 45.0 | 49.8 | 51.1 | 44.2 |
| SM | 51.6 | 45.8 | 50.5 | 52.3 | 52.8 |
| ST | 50.2 | 67.4 | 22.6 | 58.4 | 57.2 |
| STG | 51.0 | 46.7 | 53.9 | 56.6 | 47.0 |
| STS | 50.4 | 51.9 | 62.0 | 57.2 | 46.6 |
| SW | 50.5 | 54.5 | 50.1 | 45.7 | 55.3 |
| TD | 51.2 | 52.7 | 55.4 | 43.9 | 53.2 |

TABLE E-7 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| TM | 51.1 | 46.7 | 54.0 | 55.4 | 50.2 |
| UT | 51.3 | 54.5 | 50.4 | 40.8 | 55.0 |
| YM | 51.0 | 45.0 | 49.8 | 43.9 | 34.7 |

TABLE E-8

Zone B Retention Severity Index Standardized Components*

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| AB | 23.4 | 36.4 | 23.0 | 52.9 | 57.8 |
| ABE | 50.5 | 44.1 | 52.5 | 55.4 | 53.7 |
| ABF | 50.5 | 43.3 | 50.5 | 52.9 | 54.0 |
| ABH | 50.5 | 45.0 | 50.0 | 52.9 | 50.8 |
| AC | 52.2 | 44.1 | 54.2 | 62.0 | 50.6 |
| AD | 54.3 | 52.7 | 51.9 | 56.6 | 36.4 |
| AE | 53.9 | 52.7 | 53.4 | 56.6 | 43.6 |
| AF | 23.4 | 45.0 | 23.0 | 56.0 | 57.8 |
| AG | 53.1 | 41.5 | 51.6 | 51.7 | 54.6 |
| AK | 53.1 | 45.8 | 49.4 | 48.7 | 47.0 |
| AM | 23.4 | 39.8 | 23.0 | 56.6 | 57.8 |
| AME | 53.9 | 55.3 | 52.7 | 53.5 | 52.8 |
| AMH | 50.9 | 55.3 | 51.0 | 53.5 | 45.1 |
| AMS | 53.5 | 48.4 | 51.4 | 53.5 | 42.5 |
| AO | 53.1 | 46.7 | 52.0 | 55.4 | 46.0 |
| AQ | 53.9 | 51.0 | 57.6 | 60.2 | 52.3 |
| AS | 63.4 | 51.0 | 55.2 | 53.5 | 57.3 |
| ASE | 53.5 | 62.2 | 50.8 | 55.4 | 56.6 |
| ASM | 53.9 | 28.6 | 53.2 | 54.7 | 55.2 |
| AT | 51.3 | 51.0 | 55.3 | 58.4 | 31.7 |
| AV | 23.4 | 45.8 | 23.0 | 58.4 | 57.8 |
| AW | 37.6 | 84.6 | 55.2 | 62.0 | 49.0 |
| AX | 55.6 | 51.0 | 56.4 | 57.8 | 53.9 |
| AZ | 56.5 | 43.3 | 48.9 | 51.5 | 51.0 |
| BM | 50.5 | 47.6 | 50.9 | 49.3 | 31.6 |
| BT | 49.2 | 38.9 | 52.6 | 56.0 | 33.8 |
| BU | 56.1 | 54.5 | 51.2 | 45.0 | 54.1 |
| CE | 57.8 | 49.3 | 52.8 | 45.0 | 56.0 |
| CM | 57.8 | 54.5 | 51.3 | 45.0 | 55.9 |
| CTA | 48.3 | 47.6 | 52.5 | 46.9 | 54.7 |

*Table E-2 transformed to mean 50 and standard deviation 10 for each component.

TABLE E-8 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| CTI | 51.8 | 43.3 | 53.1 | 53.5 | 54.9 |
| CTM | 49.2 | 48.4 | 62.4 | 52.3 | 50.9 |
| CTO | 50.1 | 45.0 | 52.9 | 52.3 | 53.1 |
| CTR | 51.8 | 51.9 | 53.9 | 52.9 | 54.1 |
| CTT | 52.6 | 61.4 | 61.5 | 52.9 | 53.4 |
| CU | 23.4 | 37.2 | 23.0 | 45.0 | 57.8 |
| DK | 53.9 | 47.6 | 51.9 | 53.5 | 52.4 |
| DM | 53.1 | 38.1 | 50.0 | 39.6 | 56.7 |
| DP | 52.2 | 53.6 | 51.0 | 52.9 | 50.5 |
| DS | 50.9 | 53.6 | 61.5 | 55.4 | 49.8 |
| DT | 50.1 | 45.0 | 49.0 | 40.2 | 51.9 |
| EA | 59.5 | 43.3 | 51.6 | 42.6 | 57.4 |
| EM | 52.6 | 47.6 | 55.4 | 55.4 | 32.8 |
| EN | 54.3 | 48.4 | 51.9 | 56.0 | 43.9 |
| EO | 56.9 | 51.9 | 51.6 | 39.6 | 55.3 |
| EQ | 23.4 | 41.5 | 23.0 | 40.2 | 57.8 |
| ET | 53.9 | 47.6 | 56.5 | 59.6 | 21.0 |
| EW | 56.9 | 46.7 | 59.8 | 62.0 | 54.4 |
| FT | 23.4 | 47.6 | 23.0 | 60.2 | 57.8 |
| FTB | 48.8 | 51.0 | 56.6 | 63.2 | 54.9 |
| FTG | 57.3 | 55.3 | 58.1 | 56.0 | 52.1 |
| FTM | 53.1 | 54.5 | 59.4 | 60.2 | 49.2 |
| GM | 23.4 | 51.9 | 23.0 | 57.8 | 57.8 |
| GMG | 54.8 | 47.6 | 53.1 | 54.1 | 49.8 |
| GMM | 51.3 | 54.5 | 55.6 | 57.2 | 54.3 |
| GMT | 53.1 | 32.9 | 54.5 | 56.6 | 53.3 |
| GS | 23.4 | 43.3 | 23.0 | 60.2 | 57.8 |
| GSE | 47.9 | 73.4 | 57.2 | 56.0 | 55.9 |
| GSM | 53.5 | 71.7 | 56.4 | 56.0 | 55.2 |
| HM | 50.9 | 52.7 | 49.6 | 55.4 | 16.6 |
| HT | 54.8 | 51.0 | 52.3 | 56.0 | 37.9 |
| IC | 55.6 | 45.8 | 54.1 | 55.4 | 47.4 |
| IM | 57.8 | 51.9 | 53.9 | 49.9 | 56.9 |

TABLE E-8 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| IS | 55.6 | 55.3 | 53.8 | 49.3 | 55.8 |
| JO | 51.8 | 45.8 | 50.3 | 25.0 | 56.0 |
| LI | 52.6 | 49.3 | 49.9 | 31.1 | 56.7 |
| LN | 53.5 | 45.8 | 51.6 | 28.1 | 56.5 |
| MA | 54.3 | 58.8 | 52.8 | 22.0 | 54.6 |
| ML | 55.6 | 52.7 | 52.1 | 34.1 | 57.5 |
| MM | 53.1 | 44.1 | 53.1 | 62.0 | 2.1 |
| MN | 47.5 | 44.1 | 56.7 | 37.8 | 56.5 |
| MR | 54.8 | 51.9 | 53.2 | 54.1 | 52.4 |
| MS | 57.3 | 44.1 | 50.2 | 46.9 | 29.1 |
| MT | 47.5 | 46.7 | 55.6 | 57.8 | 51.9 |
| MU | 54.8 | 38.1 | 54.1 | 13.5 | 56.2 |
| NC | 59.1 | 51.9 | 55.8 | 31.1 | 55.8 |
| OM | 55.6 | 57.0 | 54.1 | 37.2 | 57.1 |
| OS | 54.8 | 49.3 | 54.7 | 55.4 | 41.6 |
| OT | 54.3 | 52.7 | 55.8 | 52.9 | 54.5 |
| PC | 53.5 | 45.0 | 49.5 | 37.2 | 55.7 |
| PH | 56.1 | 44.1 | 50.3 | 38.4 | 54.6 |
| PI | 23.4 | 100.1 | 23.0 | 42.6 | 57.8 |
| PM | 61.2 | 49.3 | 50.5 | 36.0 | 57.7 |
| PN | 49.2 | 44.1 | 51.5 | 45.7 | 39.2 |
| PR | 52.6 | 51.0 | 51.5 | 50.5 | 53.4 |
| QM | 54.8 | 50.1 | 52.3 | 57.2 | 50.8 |
| RM | 54.3 | 46.7 | 53.1 | 60.2 | 28.8 |
| RP | 56.1 | 87.2 | 50.1 | 16.6 | 56.7 |
| SH | 52.6 | 40.7 | 51.5 | 46.3 | 46.8 |
| SK | 50.1 | 45.0 | 51.5 | 51.1 | 34.3 |
| SM | 52.6 | 45.8 | 51.8 | 52.3 | 51.7 |
| ST | 23.4 | 67.4 | 23.0 | 58.4 | 57.8 |
| STG | 57.8 | 46.7 | 55.1 | 56.6 | 51.2 |
| STS | 51.3 | 51.9 | 61.2 | 57.2 | 50.9 |
| SW | 57.3 | 54.5 | 51.9 | 45.7 | 56.8 |
| TD | 49.2 | 52.7 | 55.1 | 43.8 | 51.4 |

TABLE E-8 (CONT.)

| <u>RATING</u> | <u>SHORTAGE</u> | <u>GROWTH</u> | <u>COST</u> | <u>PRIORITY</u> | <u>SIZE</u> |
|---------------|-----------------|---------------|-------------|-----------------|-------------|
| TM | 50.9 | 46.7 | 55.1 | 55.4 | 48.8 |
| UT | 55.6 | 54.5 | 51.4 | 40.8 | 55.6 |
| YM | 51.3 | 45.0 | 50.9 | 43.8 | 29.6 |

TABLE E-9

Zone C Retention Severity Index Standardized Components*

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| AB | 26.1 | 36.4 | 26.2 | 52.9 | 58.1 |
| ABE | 52.2 | 44.1 | 50.3 | 55.4 | 54.2 |
| ABF | 50.3 | 43.3 | 49.6 | 52.9 | 54.1 |
| ABH | 51.8 | 45.0 | 48.4 | 52.9 | 51.3 |
| AC | 53.0 | 44.1 | 50.6 | 62.0 | 51.1 |
| AD | 51.1 | 52.7 | 49.6 | 56.6 | 25.6 |
| AE | 47.5 | 52.7 | 50.2 | 56.6 | 35.8 |
| AF | 26.1 | 45.0 | 26.2 | 56.0 | 58.1 |
| AG | 62.5 | 41.5 | 49.5 | 51.7 | 56.9 |
| AK | 53.0 | 45.8 | 48.0 | 48.7 | 47.1 |
| AM | 26.1 | 39.8 | 55.9 | 56.6 | 58.1 |
| AME | 51.4 | 55.3 | 49.6 | 53.5 | 52.2 |
| AMH | 46.3 | 55.3 | 49.2 | 53.5 | 40.3 |
| AMS | 52.6 | 48.4 | 49.1 | 53.5 | 40.1 |
| AO | 52.2 | 46.7 | 49.4 | 55.4 | 44.5 |
| AQ | 50.7 | 51.0 | 52.6 | 60.2 | 50.2 |
| AS | 52.2 | 51.0 | 49.6 | 53.5 | 53.5 |
| ASE | 26.1 | 62.2 | 46.7 | 55.4 | 57.4 |
| ASM | 26.1 | 28.6 | 48.4 | 54.7 | 56.0 |
| AT | 52.6 | 51.0 | 51.0 | 58.4 | 33.1 |
| AV | 26.1 | 45.8 | 26.2 | 58.4 | 58.1 |
| AW | 32.9 | 84.6 | 51.6 | 62.0 | 50.9 |
| AX | 53.0 | 51.0 | 51.9 | 57.8 | 53.5 |
| AZ | 53.8 | 43.3 | 48.0 | 50.5 | 49.7 |
| BM | 52.2 | 47.6 | 49.2 | 49.3 | 29.4 |
| BT | 54.6 | 38.9 | 50.5 | 56.0 | 40.9 |
| BU | 51.8 | 54.5 | 49.6 | 45.0 | 52.3 |
| CE | 55.4 | 49.3 | 49.2 | 45.0 | 55.3 |
| CM | 55.8 | 54.5 | 49.5 | 45.0 | 55.3 |
| CTA | 49.5 | 47.6 | 50.0 | 46.9 | 55.0 |

*Table E-3 transformed to mean 50 and standard deviation 10 for each component

TABLE E-9 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| CTI | 55.8 | 43.3 | 49.6 | 53.5 | 55.7 |
| CTM | 57.8 | 48.4 | 54.6 | 52.3 | 55.2 |
| CTO | 51.8 | 45.0 | 50.1 | 52.3 | 53.9 |
| CTR | 53.4 | 51.9 | 50.2 | 52.9 | 53.9 |
| CTT | 56.6 | 61.4 | 54.0 | 52.9 | 54.5 |
| CU | 26.1 | 37.2 | 26.2 | 45.0 | 58.1 |
| DK | 57.0 | 47.6 | 49.6 | 53.5 | 53.6 |
| DM | 52.6 | 38.1 | 48.1 | 39.6 | 57.1 |
| DP | 55.0 | 53.6 | 49.2 | 52.9 | 51.6 |
| DS | 57.8 | 53.6 | 56.6 | 55.4 | 53.5 |
| DT | 51.4 | 45.0 | 48.0 | 40.2 | 52.7 |
| EA | 51.4 | 43.3 | 49.9 | 42.6 | 57.3 |
| EM | 56.6 | 47.6 | 52.9 | 55.4 | 38.1 |
| EN | 56.2 | 48.4 | 49.8 | 56.0 | 43.9 |
| EO | 59.7 | 51.9 | 48.5 | 39.6 | 55.4 |
| EQ | 26.1 | 41.5 | 26.2 | 40.2 | 58.1 |
| ET | 57.4 | 47.6 | 52.4 | 59.6 | 32.4 |
| EW | 59.4 | 46.7 | 54.3 | 62.0 | 55.0 |
| FT | 26.1 | 47.6 | 94.4 | 60.2 | 58.0 |
| FTB | 57.0 | 51.0 | 53.1 | 63.2 | 56.5 |
| FTG | 59.0 | 55.3 | 53.6 | 56.0 | 52.3 |
| FTM | 60.9 | 54.5 | 54.0 | 60.2 | 54.1 |
| GM | 26.1 | 51.9 | 95.1 | 57.8 | 58.1 |
| GMG | 53.0 | 47.6 | 50.7 | 54.1 | 47.4 |
| GMM | 57.4 | 54.5 | 52.4 | 57.2 | 55.2 |
| GMT | 55.8 | 32.9 | 50.6 | 56.6 | 54.2 |
| GS | 26.1 | 43.3 | 88.2 | 60.2 | 58.1 |
| GSE | 54.6 | 73.4 | 53.5 | 56.0 | 56.3 |
| GSM | 55.8 | 71.7 | 52.5 | 56.0 | 55.8 |
| HM | 50.7 | 52.7 | 48.4 | 55.4 | 12.4 |
| HT | 54.6 | 51.0 | 50.1 | 56.0 | 34.5 |
| IC | 55.4 | 45.8 | 51.7 | 55.4 | 47.0 |
| IM | 49.9 | 51.9 | 50.6 | 49.9 | 56.5 |

TABLE E-9 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| IS | 52.6 | 55.3 | 50.3 | 49.3 | 55.2 |
| JO | 52.6 | 45.8 | 48.0 | 25.0 | 56.0 |
| LI | 51.8 | 49.3 | 48.0 | 31.1 | 56.9 |
| LN | 54.6 | 45.8 | 48.6 | 28.1 | 56.4 |
| MA | 54.6 | 58.8 | 49.8 | 22.0 | 49.7 |
| ML | 53.8 | 52.7 | 49.0 | 34.1 | 57.6 |
| MM | 55.8 | 44.1 | 52.4 | 62.0 | 13.5 |
| MN | 45.1 | 44.1 | 51.8 | 37.8 | 56.1 |
| MR | 53.4 | 51.9 | 50.1 | 54.1 | 52.4 |
| MS | 59.4 | 44.1 | 48.5 | 46.9 | 25.8 |
| MT | 49.9 | 46.7 | 52.2 | 57.8 | 53.1 |
| MU | 53.0 | 38.1 | 50.2 | 13.5 | 55.2 |
| NC | 54.2 | 51.9 | 51.0 | 31.1 | 50.0 |
| OM | 53.8 | 57.0 | 50.6 | 37.2 | 57.2 |
| OS | 55.8 | 49.3 | 52.0 | 55.4 | 43.5 |
| OT | 53.8 | 52.7 | 51.3 | 52.9 | 54.4 |
| PC | 52.6 | 45.0 | 47.9 | 37.2 | 55.3 |
| PH | 53.8 | 44.1 | 47.7 | 38.4 | 54.6 |
| PI | 26.1 | 100.1 | 26.2 | 42.6 | 58.1 |
| PM | 54.2 | 49.3 | 49.4 | 36.0 | 57.6 |
| PN | 54.6 | 44.1 | 49.6 | 45.7 | 41.7 |
| PR | 51.4 | 51.0 | 48.8 | 50.5 | 53.3 |
| QM | 56.6 | 50.1 | 50.7 | 57.2 | 49.3 |
| RM | 52.6 | 46.7 | 50.3 | 60.2 | 22.8 |
| RP | 49.9 | 87.2 | 48.0 | 16.6 | 56.1 |
| SH | 51.4 | 40.7 | 49.0 | 46.3 | 42.4 |
| SK | 55.4 | 45.0 | 49.1 | 51.1 | 36.6 |
| SM | 55.4 | 45.8 | 49.8 | 52.3 | 52.8 |
| ST | 26.1 | 67.4 | 26.2 | 58.4 | 58.1 |
| STG | 59.4 | 46.7 | 51.8 | 56.6 | 53.3 |
| STS | 58.2 | 51.9 | 56.0 | 57.2 | 54.0 |
| SW | 52.6 | 54.5 | 50.3 | 45.7 | 56.2 |
| TD | 46.7 | 52.7 | 50.9 | 43.8 | 50.9 |

TABLE E-9 (CONT.)

| RATING | SHORTAGE | GROWTH | COST | PRIORITY | SIZE |
|--------|----------|--------|------|----------|------|
| TM | 53.4 | 46.7 | 51.2 | 55.4 | 49.3 |
| UT | 53.0 | 54.5 | 48.9 | 40.8 | 55.1 |
| YM | 51.8 | 45.0 | 49.1 | 43.8 | 24.5 |

APPENDIX F: SRB BONUS MULTIPLES

TABLE F-1

FY-82 Bonus Multiple Assignments with
Rankings by SRB Zones

| RATING | Bonus Multiples | | | Rankings ^a | | |
|--------|-----------------|--------|--------|-----------------------|--------|--------|
| | Zone A | Zone B | Zone C | Zone A | Zone B | Zone C |
| AB | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| ABE | 2.0 | 3.0 | 2 | 63 | 62 | 89 |
| ABF | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| ABH | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| AC | 6.0 | 6.0 | 6 | 94 | 92 | 99 |
| AD | 1.0 | 1.0 | 0 | 49 | 39 | 39 |
| AE | 2.0 | 2.0 | 0 | 63 | 50 | 39 |
| AF | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| AG | 0.0 | 2.0 | 2 | 21 | 50 | 89 |
| AK | 0.0 | 1.0 | 0 | 21 | 39 | 39 |
| AM | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| AME | 0.5 | 2.0 | 0 | 42 | 50 | 39 |
| AMH | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| AMS | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| AO | 1.0 | 2.0 | 2 | 49 | 50 | 89 |
| AQ | 6.0 | 5.0 | 2 | 94 | 79 | 89 |
| AS | 0.0 | 1.0 | 0 | 21 | 39 | 39 |
| ASE | 1.0 | 1.0 | 0 | 49 | 39 | 39 |
| ASM | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| AT | 5.0 | 4.0 | 0 | 87 | 71 | 39 |
| AV | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| AW | 4.0 | 6.0 | 0 | 84 | 92 | 39 |
| AX | 3.0 | 3.0 | 0 | 76 | 62 | 39 |
| AZ | 0.0 | 1.0 | 0 | 21 | 39 | 39 |
| BM | 0.0 | 0.5 | 0 | 21 | 34 | 39 |
| BT | 6.0 | 6.0 | 2 | 94 | 92 | 89 |
| BU | 2.0 | 3.0 | 0 | 63 | 62 | 39 |
| CE | 2.0 | 3.0 | 0 | 63 | 62 | 39 |

^aScaled from 1 for lowest to 99 for highest
bonus multiple

TABLE F-1 (CONT.)

| RATING | Zone A | Zone B | Zone C | Zone A | Zone B | Zone C |
|--------|--------|--------|--------|--------|--------|--------|
| CM | 0.0 | 4.0 | 0 | 21 | 71 | 39 |
| CTA | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| CTI | 2.0 | 6.0 | 0 | 63 | 92 | 39 |
| CTM | 4.0 | 5.0 | 1 | 84 | 79 | 82 |
| CTO | 1.0 | 3.0 | 0 | 49 | 62 | 39 |
| CTR | 1.0 | 5.0 | 0 | 49 | 79 | 39 |
| CTT | 3.0 | 6.0 | 0 | 76 | 92 | 39 |
| CU | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| DK | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| DM | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| DP | 0.0 | 3.0 | 0 | 21 | 62 | 39 |
| DS | 6.0 | 5.0 | 4 | 94 | 79 | 97 |
| DT | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| EA | 1.0 | 2.0 | 0 | 49 | 50 | 39 |
| EM | 6.0 | 6.0 | 0 | 94 | 92 | 39 |
| EN | 1.0 | 3.0 | 0 | 49 | 62 | 39 |
| EO | 2.0 | 2.0 | 0 | 63 | 50 | 39 |
| EQ | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| ET | 6.0 | 6.0 | 3 | 94 | 92 | 95 |
| EW | 4.0 | 5.0 | 5 | 84 | 79 | 98 |
| FT | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| FTB | 2.0 | 5.0 | 0 | 63 | 79 | 39 |
| FTG | 3.0 | 3.0 | 0 | 76 | 62 | 39 |
| FTM | 6.0 | 6.0 | 2 | 94 | 92 | 89 |
| GM | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| GMG | 2.0 | 1.0 | 0 | 63 | 39 | 39 |
| GMM | 4.0 | 6.0 | 3 | 84 | 92 | 95 |
| GMT | 4.0 | 5.0 | 3 | 84 | 79 | 95 |
| GS | 0.0 | 6.0 | 0 | 21 | 92 | 39 |
| GSE | 6.0 | 6.0 | 0 | 94 | 92 | 39 |
| GSM | 6.0 | 6.0 | 0 | 94 | 92 | 39 |
| HM | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| HT | 3.0 | 4.0 | 1 | 76 | 71 | 82 |

TABLE F-1 (CONT.)

| RATING | Zone A | Zone B | Zone C | Zone A | Zone B | Zone C |
|--------|--------|--------|--------|--------|--------|--------|
| IC | 3.0 | 4.0 | 1 | 76 | 71 | 82 |
| IM | 3.0 | 3.0 | 1 | 76 | 62 | 82 |
| IS | 2.0 | 4.0 | 0 | 63 | 71 | 39 |
| JO | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| LI | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| LN | 1.0 | 0.0 | 0 | 49 | 17 | 39 |
| MA | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| ML | 2.0 | 1.0 | 0 | 63 | 39 | 39 |
| MM | 6.0 | 6.0 | 1 | 94 | 92 | 82 |
| MN | 2.0 | 1.0 | 0 | 63 | 39 | 39 |
| MR | 2.0 | 2.0 | 0 | 63 | 50 | 39 |
| MS | 3.0 | 3.0 | 0 | 76 | 62 | 39 |
| MT | 3.0 | 5.0 | 0 | 76 | 79 | 39 |
| MU | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| NC | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| OM | 3.0 | 2.0 | 0 | 76 | 50 | 39 |
| OS | 6.0 | 6.0 | 2 | 94 | 92 | 89 |
| OT | 1.0 | 1.0 | 0 | 49 | 39 | 39 |
| PC | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| PH | 0.0 | 1.0 | 0 | 21 | 39 | 39 |
| PI | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| PM | 3.0 | 4.0 | 0 | 76 | 71 | 39 |
| PN | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| PR | 1.0 | 2.0 | 0 | 49 | 50 | 39 |
| QM | 2.0 | 2.0 | 1 | 63 | 50 | 82 |
| RM | 1.0 | 3.0 | 0 | 49 | 62 | 39 |
| RP | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| SH | 0.5 | 0.0 | 0 | 42 | 17 | 39 |
| SK | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| SM | 2.0 | 4.0 | 0 | 63 | 71 | 39 |
| ST | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| STG | 3.0 | 6.0 | 1 | 76 | 92 | 82 |

TABLE F-1 (CONT.)

| RATING | Zone A | Zone B | Zone C | Zone A | Zone B | Zone C |
|--------|--------|--------|--------|--------|--------|--------|
| STS | 2.0 | 5.0 | 0 | 63 | 79 | 39 |
| SW | 1.0 | 2.0 | 0 | 49 | 50 | 39 |
| TD | 0.0 | 0.0 | 0 | 21 | 17 | 39 |
| TM | 5.0 | 5.0 | 2 | 87 | 79 | 89 |
| UT | 0.0 | 2.0 | 0 | 21 | 50 | 39 |
| YM | 0.0 | 0.0 | 0 | 21 | 17 | 39 |

Source: OP-136 (SRB Manager)

TABLE F-2

FY-83 Bonus Multiple Assignments with
Rankings by SRB Zones

| RATING | Bonus Multiples | | | Rankings ^a | | |
|--------|-----------------|--------|--------|-----------------------|--------|--------|
| | Zone A | Zone B | Zone C | Zone A | Zone B | Zone C |
| AB | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| ABE | 0.5 | 1.5 | 0.0 | 56 | 60 | 40 |
| ABF | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| ABH | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AC | 4.5 | 4.5 | 0.0 | 93 | 95 | 40 |
| AD | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AE | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AF | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AG | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AK | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AM | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AME | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AMH | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AMS | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AO | 0.0 | 1.0 | 0.0 | 28 | 55 | 40 |
| AQ | 4.5 | 4.5 | 0.0 | 93 | 95 | 40 |
| AS | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| ASE | 1.0 | 1.0 | 0.0 | 62 | 55 | 40 |
| ASM | 1.0 | 0.0 | 0.0 | 62 | 24 | 40 |
| AT | 3.5 | 3.0 | 0.0 | 86 | 79 | 40 |
| AV | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| AW | 1.0 | 2.5 | 0.0 | 62 | 71 | 40 |
| AX | 4.5 | 3.0 | 0.5 | 93 | 79 | 81 |
| AZ | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| BM | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| BT | 3.5 | 4.5 | 0.5 | 86 | 95 | 81 |
| BU | 0.0 | 1.5 | 0.0 | 28 | 60 | 40 |
| CE | 1.0 | 1.5 | 0.0 | 62 | 60 | 40 |

^aScaled from 1 for lowest to 99 for highest
bonus multiple

TABLE F-2 (CONT.)

| RATING | Zone A | Zone B | Zone C | Zone A | Zone B | Zone C |
|--------|--------|--------|--------|--------|--------|--------|
| CM | 0.0 | 2.0 | 0.0 | 28 | 66 | 40 |
| CTA | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| CTI | 1.0 | 4.0 | 0.0 | 62 | 90 | 40 |
| CTM | 3.0 | 3.5 | 0.0 | 82 | 86 | 40 |
| CTO | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| CTR | 1.0 | 3.0 | 0.0 | 62 | 79 | 40 |
| CTT | 1.0 | 3.0 | 0.0 | 62 | 79 | 40 |
| CU | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| DK | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| DM | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| DP | 0.0 | 1.5 | 0.0 | 28 | 60 | 40 |
| DS | 4.5 | 3.5 | 4.0 | 93 | 86 | 99 |
| DT | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| EA | 0.5 | 0.5 | 0.0 | 56 | 50 | 40 |
| EM | 5.0 | 4.0 | 0.0 | 98 | 90 | 40 |
| EN | 0.0 | 1.0 | 0.0 | 28 | 55 | 40 |
| EO | 0.0 | 2.0 | 0.0 | 28 | 66 | 40 |
| EQ | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| ET | 5.0 | 5.0 | 2.0 | 98 | 99 | 94 |
| EW | 4.0 | 3.5 | 3.0 | 89 | 86 | 98 |
| FT | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| FTB | 1.0 | 3.0 | 1.0 | 62 | 79 | 87 |
| FTG | 4.0 | 3.0 | 1.0 | 89 | 79 | 87 |
| FTM | 4.0 | 4.5 | 2.5 | 89 | 95 | 97 |
| GM | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| GMG | 2.0 | 0.0 | 0.0 | 72 | 24 | 40 |
| GMM | 3.0 | 3.5 | 1.0 | 82 | 86 | 87 |
| GMT | 2.5 | 3.0 | 1.5 | 76 | 79 | 91 |
| GS | 0.0 | 0.0 | 2.0 | 28 | 24 | 94 |
| GSE | 5.0 | 4.5 | 2.0 | 98 | 95 | 94 |
| GSM | 4.5 | 4.5 | 2.0 | 93 | 95 | 94 |
| HM | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| HT | 2.5 | 2.0 | 1.0 | 76 | 66 | 87 |

TABLE F-2 (CONT.)

| RATING | Zone A | Zone B | Zone C | Zone A | Zone B | Zone C |
|--------|--------|--------|--------|--------|--------|--------|
| IC | 3.0 | 3.0 | 1.0 | 82 | 79 | 87 |
| IM | 3.0 | 2.0 | 0.0 | 82 | 66 | 40 |
| IS | 0.0 | 2.0 | 0.0 | 28 | 66 | 40 |
| JO | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| LI | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| LN | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| MA | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| ML | 1.0 | 1.0 | 0.0 | 62 | 55 | 40 |
| MM | 3.0 | 3.0 | 0.5 | 82 | 79 | 81 |
| MN | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| MR | 2.0 | 1.0 | 0.0 | 72 | 55 | 40 |
| MS | 2.5 | 2.5 | 0.0 | 76 | 71 | 40 |
| MT | 1.0 | 3.0 | 1.0 | 62 | 79 | 87 |
| MU | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| NC | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| OM | 3.0 | 1.0 | 0.0 | 82 | 55 | 40 |
| OS | 4.5 | 4.5 | 0.5 | 93 | 95 | 81 |
| OT | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| PC | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| PH | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| PI | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| PM | 2.5 | 2.0 | 0.0 | 76 | 66 | 40 |
| PN | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| PR | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| QM | 2.0 | 1.0 | 0.0 | 72 | 55 | 40 |
| RM | 1.5 | 2.5 | 0.0 | 69 | 71 | 40 |
| RP | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| SH | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| SK | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| SM | 1.5 | 2.0 | 0.0 | 69 | 66 | 40 |
| ST | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| STG | 3.0 | 4.0 | 1.0 | 82 | 90 | 87 |

TABLE F-2 (CONT.)

| RATING | Zone A | Zone B | Zone C | Zone A | Zone B | Zone C |
|--------|--------|--------|--------|--------|--------|--------|
| STS | 1.5 | 2.5 | 1.5 | 69 | 71 | 91 |
| SW | 0.0 | 0.5 | 0.0 | 28 | 50 | 40 |
| TD | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |
| TM | 2.5 | 3.0 | 0.0 | 76 | 79 | 40 |
| UT | 0.0 | 0.5 | 0.0 | 28 | 50 | 40 |
| YM | 0.0 | 0.0 | 0.0 | 28 | 24 | 40 |

Source: OP-136 (SRB Manager)

LIST OF REFERENCES

- Balis, E. and Clay-Mendez, D. Replacement Costs for First-Term Personnel by Rating. Alexandria, Virginia: Center for Naval Analyses, Naval Studies Group, 1982.
- Balis, E. and Driscoll, K. Meeting Career Force Requirements for the 600 Ship Navy: A Comparison of Accession and Retention Policies. Alexandria, Virginia: Center for Naval Analyses, Naval Studies Group, 1983.
- Butler, R., Neches, T., Zulli, D., Padon, C., and Opstad, D. Review of the Selective Reenlistment Bonus Management System. Santa Monica, California: The Assessment Group, 1980.
- Butler, R. The Economic Cost of a Person. Santa Monica, California: The Assessment Group, 1981.
- Butler, R. Imputation of a Sailor's Marginal Product: An Application of the Theory of Human Capital. Santa Monica, California: The Assessment Group, 1982.
- Eskew, H., Berterman, J., Smith, B., Noah, J., and Breaux, F. Naval Manpower Costs and Cost Models: An Evaluative Study. Alexandria, Virginia: Administrative Sciences Corp., 1978.
- Kendall, M. Rank Correlation Methods (3rd edition). London: Charles Griffen & Company, Ltd., 1962.
- Koehler, E. and Turney, R. Life Cycle Navy Enlisted Billet Costs--FY 1981. San Diego, California: Navy Personnel Research and Development Center, 1981.
- Naval Military Personnel Command. Navy Military Personnel Statistics: FY-82 Annual Report. Washington, D.C.: Naval Military Personnel Command, 1982.
- SRB Effectiveness. Washington, D.C.: OP-136C, 1982.
- Pill, J. "The Delphi Method: Substance, Context, A Critique and an Annotated Bibliography." Socio-Economic Planning Sciences. 5, No. 1 (February 1971), pp. 55-71.
- Thomas, G. A Method for Obtaining Consensus Judgements on the Relative Importance of Navy Occupations, Unpublished Manuscript, Monterey, California, 1981.

Van Gigch, J. Applied General Systems Theory (2nd edition).
New York: Harper & Row, 1978.

Winkler, R. and Hays, W. Statistics: Probability, Inference,
and Decision. (2nd ed.) New York: Holt, Rinehart
and Winston, 1975.

INITIAL DISTRIBUTION LIST

| | No. Copies |
|---|------------|
| 1. Defense Technical Information Center - Cameron Station Alexandria, Virginia 22314 | 2 |
| 2. Dudley Knox Library, Code 0142 Naval Postgraduate School Monterey, California 93940 | 2 |
| 3. Department Chairman, Code 54 Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940 | 1 |
| 4. Professor George W. Thomas, Code 54Te Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940 | 12 |
| 5. Professor Joseph San Miguel, Code 54Ze Department of Administrative Sciences Naval Postgraduate School Monterey, California 93940 | 1 |
| 6. Professor Doug Neil, Code 54Ni Department of Operations Research Naval Postgraduate School Monterey, California 93940 | 2 |
| 7. LT Michael A. Driggers, I, USN 1013 Lansdowne Road Charlotte, North Carolina 28211 | 4 |
| 8. Susan Hearold, Ph.D. Code 15 Naval Personnel Research Data Center San Diego, California 92152 | 1 |
| 9. Capt. T.L. Flanary Chief of Naval Operations (OP-13B) Washington, D.C. 20370 | 2 |

- | | | |
|-----|--|---|
| 10. | LT. Edwin J. Knowles, Jr. VAW-122 FPO New York, New York 09501 | 1 |
| 11. | CDR. Reginald B. Teague 6417 Drew Drive Virginia Beach, Virginia 23462 | 1 |
| 12. | CDR. Barton C. Gohmann 330 West Brambleton Avenue Norfolk, Virginia 23510 | 1 |
| 13. | MPTA Library Code 36 Naval Postgraduate School Monterey, California 93940 | 2 |

END

FILMED

10-83

DTIC